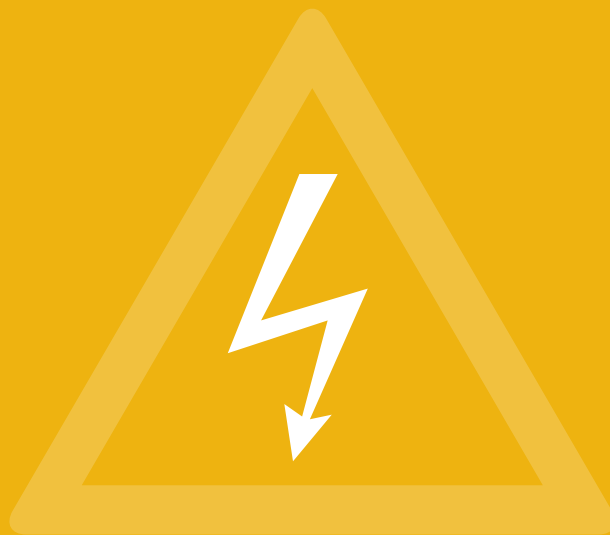


---

# Capacitor Selection Guide

## High Voltage

---



# EASY TO DESIGN IN



Capacitor Simulation Tool

[ksim.kemet.com](http://ksim.kemet.com)



Made for Engineers by Engineers

[engineeringcenter.com](http://engineeringcenter.com)



Catalogs and Technical Data

 Download on the  
**App Store**

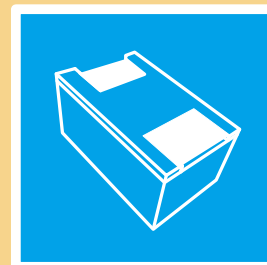
ANDROID APP ON  
 **Google Play**

 Download from  
**Windows Store**

[www.kemet.com/mobileapps](http://www.kemet.com/mobileapps)



[www.kemet.com/appguide](http://www.kemet.com/appguide)



[www.kemet.com/3DModels](http://www.kemet.com/3DModels)



## COMPONENTEDGE

[search.kemet.com](http://search.kemet.com)

3D Models, Specifications, and Search

## Why Choose KEMET

KEMET Electronics Corporation is a leading global supplier of electronic components. We offer our customers the broadest selection of capacitor technologies in the industry, along with an expanding range of electromagnetic compatibility solutions and supercapacitors. Our vision is to be the preferred supplier of electronic component solutions for customers demanding the highest standards of quality, delivery and service.



# TABLE OF CONTENTS

## Aluminum Electrolytic Capacitors

---

|                           |    |
|---------------------------|----|
| Screw Terminal.....       | 9  |
| Snap-In .....             | 15 |
| Surface Mount .....       | 23 |
| Radial/Single-Ended ..... | 24 |

## Ceramic Capacitors

---

|                                    |    |
|------------------------------------|----|
| Surface Mount .....                | 31 |
| Commercial Grade .....             | 31 |
| Automotive Grade .....             | 36 |
| Industrial and Military Grade..... | 40 |
| Leaded .....                       | 46 |
| Commercial Grade .....             | 46 |
| Industrial and Military Grade..... | 48 |

## Film Capacitors

---

|                                             |     |
|---------------------------------------------|-----|
| DC Film.....                                | 57  |
| Pulse and High Frequency .....              | 57  |
| Single Metallized Polyester.....            | 57  |
| Single Metallized Polypropylene.....        | 59  |
| Double Metallized Polyester .....           | 68  |
| Film/Foil Polypropylene.....                | 74  |
| General Purpose .....                       | 76  |
| Through-Hole.....                           | 76  |
| Metallized Polyester (PET).....             | 76  |
| Metallized Paper .....                      | 85  |
| Surface Mount .....                         | 86  |
| Polyester (PET) .....                       | 86  |
| Polyethylene Naphthalate (PEN).....         | 86  |
| Metallized Polyphenylene Sulfide (PPS)..... | 89  |
| Specialty Components .....                  | 90  |
| RC Network – Metallized Polypropylene ..... | 90  |
| Dual In-Line Polyester .....                | 91  |
| Through-Hole .....                          | 91  |
| Surface Mount.....                          | 92  |
| Power AC Film.....                          | 94  |
| Polypropylene – Through-Hole .....          | 94  |
| Axial.....                                  | 94  |
| Radial Box .....                            | 96  |
| Plastic Canister .....                      | 100 |
| Aluminum Canister .....                     | 102 |



# **Aluminum Electrolytic Capacitors**



# Aluminum Electrolytic Capacitors

## Screw Terminal

**ALS30/31 High CV Value and Long Life 85°C, 25 – 500 VDC**

**Capacitance Range:** 100 to 680,000 µF • **Temperature Range:** -40°C to +85°C

**Lifetime:** 20,000 Hours

[www.kemet.com/ALS30-31](http://www.kemet.com/ALS30-31)



| ALS3                                 | 0                                           | A                     | 153                                                                                    | DA                  | 025                                                                     |                                                               |
|--------------------------------------|---------------------------------------------|-----------------------|----------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------|---------------------------------------------------------------|
| Series                               | Stud Option                                 | Termination           | Capacitance Code (µF)                                                                  | Size Code           | Rated Voltage (VDC)                                                     |                                                               |
| Screw Terminal Aluminum Electrolytic | 0 = Plain Can<br>1 = Threaded mounting stud | See Termination Table | First two digits represent significant figures. Third digit specifies number of zeros. | See Dimension Table | 025 = 25<br>040 = 40<br>063 = 63<br>100 = 100<br>200 = 200<br>250 = 250 | 350 = 350<br>400 = 400<br>415 = 415<br>450 = 450<br>500 = 500 |

| Case Size  | Voltage |                 |                 |        |                 |                 |                 |
|------------|---------|-----------------|-----------------|--------|-----------------|-----------------|-----------------|
|            | 25      | 40              | 63              | 100    | 200             | 250             | 350             |
| 36 x 52    | 15 mF   | 10 mF           | 4.7 mF          | 2.2 mF | 470 µF          | 470 µF          | 330 µF          |
| 36 x 62    | 22 mF   | 15 mF           | 6.8 mF          | 3.3 mF | 680 µF          | 680 µF          |                 |
| 36 x 82    | 33 mF   | 22 mF           | 10 mF           | 4.7 mF | 1 mF            | 1 mF            | 470 µF          |
| 36 x 105   | 47 mF   |                 | 15 mF           | 6.8 mF | 1.5 mF          |                 | 680 µF          |
| 51 x 82    | 68 mF   | 33 mF – 0.047 F | 15 mF – 0.022 F | 10 mF  | 2.2 mF          | 1.5 mF – 2.2 mF | 1 mF            |
| 51 x 105   | 100 mF  | 68 mF           | 33 mF           | 15 mF  | 3.3 mF          | 3.3 mF          | 1.5 mF – 2.2 mF |
| 63.5 x 105 |         |                 |                 |        |                 |                 |                 |
| 66 x 105   | 150 mF  | 100 mF          | 47 mF           | 22 mF  | 4.7 mF – 6.8 mF | 4.7 mF          | 2.2 mF – 3.3 mF |
| 77 x 75    | 150 mF  | 100 mF          | 47 mF           | 22 mF  | 4.7 mF          | 3.3 mF          | 2.2 mF          |
| 77 x 105   | 220 mF  | 150 mF          | 68 mF           | 33 mF  | 10 mF           | 6.8 mF          | 4.7 mF          |
| 77 x 115   |         |                 |                 |        |                 |                 |                 |
| 77 x 146   | 330 mF  | 220 mF          | 100 mF          | 47 mF  | 15 mF           | 10 mF           | 6.8 mF          |
| 77 x 220   | 470 mF  | 330 mF          | 150 mF          | 68 mF  | 22 mF           | 15 mF – 0.022 F | 10 mF           |
| 90 x 67    | 220 mF  | 100 mF          | 68 mF           | 22 mF  | 6.8 mF          | 6.8 mF          | 3.3 mF          |
| 90 x 75    | 220 mF  | 100 mF          | 47 mF           | 22 mF  | 6.8 mF          | 4.7 mF          | 3.3 mF          |
| 90 x 98    | 330 mF  | 150 mF          | 68 mF           | 33 mF  | 10 mF           | 10 mF           | 4.7 mF          |
| 90 x 146   | 470 mF  | 220 mF          | 150 mF          | 68 mF  | 22 mF           | 15 mF           | 6.8 mF          |
| 90 x 220   | 680 mF  | 470 mF          | 220 mF          | 100 mF | 33 mF           | 22 mF           | 15 mF           |

*Lifetime based on applying rated voltage, temperature and ripple current.*

## Screw Terminal (cont.)

### ALS30/31 High CV Value and Long Life 85°C, 25 – 500 VDC (cont.)

Capacitance Range: 100 to 680,000  $\mu$ F • Temperature Range: -40°C to +85°C

Lifetime: 20,000 Hours

[www.kemet.com/ALS30-31](http://www.kemet.com/ALS30-31)



| ALS3                                 | 0                                           | A                     | 153                                                                                    | DA                  | 025                                                                     |                                                               |
|--------------------------------------|---------------------------------------------|-----------------------|----------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------|---------------------------------------------------------------|
| Series                               | Stud Option                                 | Termination           | Capacitance Code ( $\mu$ F)                                                            | Size Code           | Rated Voltage (VDC)                                                     |                                                               |
| Screw Terminal Aluminum Electrolytic | 0 = Plain Can<br>1 = Threaded mounting stud | See Termination Table | First two digits represent significant figures. Third digit specifies number of zeros. | See Dimension Table | 025 = 25<br>040 = 40<br>063 = 63<br>100 = 100<br>200 = 200<br>250 = 250 | 350 = 350<br>400 = 400<br>415 = 415<br>450 = 450<br>500 = 500 |

| Case Size  | Voltage         |             |                 |                           |
|------------|-----------------|-------------|-----------------|---------------------------|
|            | 400             | 415         | 450             | 500                       |
| 36 x 52    | 220 $\mu$ F     | 220 $\mu$ F | 150 $\mu$ F     | 100 $\mu$ F               |
| 36 x 62    | 330 $\mu$ F     | 330 $\mu$ F | 220 $\mu$ F     | 150 $\mu$ F               |
| 36 x 82    | 470 $\mu$ F     | 470 $\mu$ F | 330 $\mu$ F     | 220 $\mu$ F – 330 $\mu$ F |
| 36 x 105   | 680 $\mu$ F     | 680 $\mu$ F | 470 $\mu$ F     | 330 $\mu$ F               |
| 51 x 82    | 1 mF            | 1 mF        | 680 $\mu$ F     | 470 $\mu$ F               |
| 51 x 105   | 1.5 mF – 2.2 mF | 1.5 mF      | 1 mF            | 680 $\mu$ F               |
| 63.5 x 105 | 3.3 mF          |             |                 |                           |
| 66 x 105   | 2.2 mF          | 2.2 mF      | 1.5 mF – 2.2 mF | 1 mF                      |
| 77 x 75    | 1.5 mF          | 1.5 mF      | 1.5 mF          | 1 mF                      |
| 77 x 105   | 3.3 mF – 4.7 mF | 3.3 mF      | 2.2 mF – 3.3 mF | 1.5 mF                    |
| 77 x 115   | 4.7 mF          |             | 4.7 mF          |                           |
| 77 x 146   | 4.7 mF – 6.8 mF | 4.7 mF      | 3.3 mF – 4.7 mF | 2.2 mF – 3.3 mF           |
| 77 x 220   | 6.8 mF – 0.01 F | 6.8 mF      | 6.8 mF          | 4.7 mF                    |
| 90 x 67    | 3.3 mF          | 2.2 mF      | 2.2 mF          | 1.5 mF                    |
| 90 x 75    | 2.2 mF          | 2.2 mF      | 2.2 mF – 3.3 mF | 1.5 mF                    |
| 90 x 98    | 3.3 mF – 4.7 mF | 3.3 mF      | 3.3 mF          | 2.2 mF                    |
| 90 x 146   | 6.8 mF          | 6.8 mF      | 4.7 mF          | 3.3 mF                    |
| 90 x 220   | 10 mF           | 10 mF       | 10 mF           | 6.8 mF                    |

*Lifetime based on applying rated voltage, temperature and ripple current.*

# Aluminum Electrolytic Capacitors

## Screw Terminal (cont.)

**ALS32/33 High CV Value and Long Life 85°C, 350 – 500 VDC (Primarily for Asian Market)**

**Capacitance Range:** 220 to 18,000  $\mu\text{F}$  • **Temperature Range:** -40°C to +85°C

**Lifetime:** 20,000 Hours

[www.kemet.com/ALS32-33](http://www.kemet.com/ALS32-33)



| ALS3                                 | 2                                           | A                     | 391                                                                                    | D2C                 | 350                                              |
|--------------------------------------|---------------------------------------------|-----------------------|----------------------------------------------------------------------------------------|---------------------|--------------------------------------------------|
| Series                               | Stud Option                                 | Termination           | Capacitance Code ( $\mu\text{F}$ )                                                     | Size Code           | Rated Voltage (VDC)                              |
| Screw Terminal Aluminum Electrolytic | 2 = Plain Can<br>3 = Threaded mounting stud | See Termination Table | First two digits represent significant figures. Third digit specifies number of zeros. | See Dimension Table | 350 = 350<br>400 = 400<br>450 = 450<br>500 = 500 |

| Case Size    | Voltage                               |                                       |                                       |                                       |
|--------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|              | 350                                   | 400                                   | 450                                   | 500                                   |
| 34.9 x 54    | 390 $\mu\text{F}$                     | 330 $\mu\text{F}$                     | 270 $\mu\text{F}$                     | 220 $\mu\text{F}$                     |
| 34.9 x 79.4  | 470 $\mu\text{F}$ – 680 $\mu\text{F}$ | 390 $\mu\text{F}$ – 560 $\mu\text{F}$ | 330 $\mu\text{F}$ – 470 $\mu\text{F}$ | 270 $\mu\text{F}$ – 390 $\mu\text{F}$ |
| 34.9 x 92.1  | 820 $\mu\text{F}$ – 1 mF              | 680 $\mu\text{F}$ – 820 $\mu\text{F}$ | 560 $\mu\text{F}$ – 680 $\mu\text{F}$ | 470 $\mu\text{F}$ – 560 $\mu\text{F}$ |
| 50.8 x 66.7  | 1.2 mF – 1.5 mF                       | 1 mF – 1.2 mF                         | 820 $\mu\text{F}$ – 1 mF              | 680 $\mu\text{F}$ – 820 $\mu\text{F}$ |
| 50.8 x 92.1  | 1.8 mF – 2.2 mF                       | 1.5 mF – 1.8 mF                       | 1.2 mF                                | 1 mF                                  |
| 50.8 x 114.3 |                                       |                                       | 1.5 mF                                | 1.2 mF                                |
| 50.8 x 130.2 | 2.7 mF – 3.3 mF                       | 2.2 mF                                | 1.8 mF                                | 1.5 mF                                |
| 63.5 x 92.1  |                                       | 2.7 mF                                | 2.2 mF                                | 1.8 mF                                |
| 63.5 x 114.3 | 3.9 mF                                | 3.3 mF                                | 2.7 mF                                | 2.2 mF                                |
| 63.5 x 130.2 |                                       | 3.9 mF                                | 3.3 mF                                | 2.7 mF                                |
| 76.2 x 114.3 | 5.6 mF                                | 4.7 mF                                | 3.9 mF                                | 3.3 mF                                |
| 76.2 x 130.2 | 6.8 mF                                | 5.6 mF                                | 4.7 mF                                | 3.9 mF                                |
| 76.2 x 149.2 | 8.2 mF                                | 6.8 mF                                | 5.6 mF                                | 4.7 mF                                |
| 88.9 x 149.2 | 10 mF – 0.012 F                       | 8.2 mF – 0.01 F                       | 6.8 mF – 8.2 mF                       | 5.6 mF – 6.8 mF                       |
| 88.9 x 193.7 | 15 mF                                 | 12 mF                                 | 10 mF                                 | 8.2 mF                                |
| 88.9 x 219.1 | 18 mF                                 | 15 mF                                 | 12 mF                                 | 10 mF                                 |

*Lifetime based on applying rated voltage, temperature and ripple current.*

## Screw Terminal (cont.)

**ALS36/37 High Ripple Current and Surge Voltage Capability 85°C, 25 – 500 VDC**

**(Primarily for American Market – Imperial Sizes)**

**Capacitance Range:** 150 to 470,000 µF • **Temperature Range:** -40°C to +85°C

**Lifetime:** 20,000 Hours

[www.kemet.com/ALS36-37](http://www.kemet.com/ALS36-37)



| ALS3                                 | 6                                           | A                     | 153                                                                                    | D2C                 | 025                                                                                |                                                                            |
|--------------------------------------|---------------------------------------------|-----------------------|----------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Series                               | Stud Option                                 | Termination           | Capacitance Code (µF)                                                                  | Size Code           | Rated Voltage (VDC)                                                                |                                                                            |
| Screw Terminal Aluminum Electrolytic | 6 = Plain Can<br>7 = Threaded mounting stud | See Termination Table | First two digits represent significant figures. Third digit specifies number of zeros. | See Dimension Table | 025 = 25<br>040 = 40<br>050 = 50<br>063 = 63<br>075 = 75<br>100 = 100<br>160 = 160 | 200 = 200<br>250 = 250<br>350 = 350<br>400 = 400<br>450 = 450<br>500 = 500 |

| Case Size        | Voltage |        |        |        |        |        |        |        |        |        |        |        |        |
|------------------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                  | 25      | 40     | 50     | 63     | 75     | 100    | 160    | 200    | 250    | 350    | 400    | 450    | 500    |
| 34.925 x 53.975  | 15 mF   | 10 mF  | 6.8 mF | 4.7 mF | 3.3 mF | 2.2 mF | 1 mF   | 680 µF | 680 µF | 330 µF | 330 µF | 220 µF | 150 µF |
| 34.925 x 66.675  | 22 mF   |        |        | 6.8 mF | 4.7 mF | 3.3 mF | 1.5 mF | 1 mF   |        | 470 µF |        |        | 220 µF |
| 34.925 x 79.375  | 33 mF   | 15 mF  | 10 mF  |        | 6.8 mF | 4.7 mF |        | 1.5 mF | 1 mF   | 680 µF | 470 µF | 330 µF |        |
| 34.925 x 92.075  |         |        |        | 10 mF  |        |        | 2.2 mF |        |        |        |        | 470 µF | 330 µF |
| 34.925 x 104.775 | 47 mF   | 22 mF  | 15 mF  |        |        | 6.8 mF |        |        | 1.5 mF | 1 mF   | 680 µF |        |        |
| 34.925 x 117.475 |         |        |        |        | 10 mF  |        | 3.3 mF | 2.2 mF |        |        |        |        | 470 µF |
| 34.925 x 130.175 |         |        |        | 15 mF  |        |        |        |        |        |        | 1 mF   | 680 µF |        |
| 34.925 x 142.875 | 68 mF   | 33 mF  | 22 mF  |        |        | 10 mF  |        |        | 2.2 mF | 1.5 mF |        |        |        |
| 50.8 x 53.975    | 33 mF   | 22 mF  | 15 mF  | 10 mF  | 4.7 mF | 3.3 mF | 1.5 mF | 1 mF   | 1 mF   | 470 µF | 470 µF | 330 µF | 330 µF |
| 50.8 x 66.675    | 47 mF   | 33 mF  | 22 mF  | 15 mF  | 6.8 mF | 6.8 mF | 2.2 mF | 1.5 mF | 1.5 mF | 680 µF | 680 µF | 470 µF | 470 µF |
| 50.8 x 79.375    | 68 mF   | 47 mF  | 33 mF  | 22 mF  | 10 mF  | 10 mF  | 3.3 mF | 2.2 mF | 2.2 mF | 1 mF   | 1 mF   | 680 µF |        |
| 50.8 x 92.075    |         |        |        |        | 15 mF  |        | 4.7 mF |        |        | 1.5 mF |        |        |        |
| 50.8 x 104.775   | 100 mF  | 68 mF  | 47 mF  | 33 mF  |        | 15 mF  |        | 3.3 mF |        |        | 1.5 mF | 1 mF   | 680 µF |
| 50.8 x 117.475   |         |        |        |        | 22 mF  |        | 6.8 mF | 4.7 mF |        | 2.2 mF |        |        |        |
| 50.8 x 130.175   |         |        | 68 mF  | 47 mF  |        |        |        |        |        |        | 2.2 mF | 1.5 mF | 1 mF   |
| 50.8 x 142.875   | 150 mF  | 100 mF |        |        |        |        |        |        | 4.7 mF |        |        |        |        |
| 63.5 x 79.375    | 100 mF  | 68 mF  | 33 mF  | 22 mF  | 22 mF  | 15 mF  | 6.8 mF | 4.7 mF | 3.3 mF | 2.2 mF | 1.5 mF | 1 mF   | 680 µF |
| 63.5 x 92.075    | 150 mF  |        | 47 mF  | 33 mF  |        |        |        |        | 4.7 mF |        | 2.2 mF | 1.5 mF | 1 mF   |
| 63.5 x 104.775   |         | 100 mF | 68 mF  | 47 mF  | 33 mF  | 22 mF  | 10 mF  | 6.8 mF |        | 3.3 mF |        |        | 1.5 mF |
| 63.5 x 117.475   |         |        |        |        |        |        |        |        |        |        | 3.3 mF |        |        |
| 63.5 x 142.875   | 220 mF  |        |        |        |        |        |        |        | 6.8 mF |        |        |        |        |
| 76.2 x 92.075    | 220 mF  | 150 mF | 68 mF  | 47 mF  | 33 mF  | 22 mF  | 10 mF  | 6.8 mF | 6.8 mF | 4.7 mF | 3.3 mF | 2.2 mF | 1.5 mF |
| 76.2 x 104.775   |         |        |        | 68 mF  | 47 mF  | 33 mF  | 15 mF  | 10 mF  |        |        |        | 3.3 mF |        |
| 76.2 x 117.475   |         |        | 100 mF |        |        |        |        |        |        |        |        |        | 2.2 mF |
| 76.2 x 130.175   |         |        |        |        |        |        |        |        |        |        | 4.7 mF |        |        |
| 76.2 x 142.875   | 330 mF  | 220 mF |        |        |        |        | 22 mF  | 15 mF  | 10 mF  | 6.8 mF | 6.8 mF | 4.7 mF |        |
| 76.2 x 168.275   |         |        | 150 mF | 100 mF | 68 mF  | 47 mF  |        | 22 mF  | 15 mF  | 10 mF  |        | 6.8 mF | 3.3 mF |
| 76.2 x 219.075   | 470 mF  | 330 mF |        |        | 100 mF | 68 mF  |        |        |        |        |        |        | 4.7 mF |

*Lifetime based on applying rated voltage, temperature and ripple current.*

# Aluminum Electrolytic Capacitors

## Screw Terminal (cont.)

**ALS60/61 High CV Value 85°C, 550 VDC**

**Capacitance Range:** 560 to 3,300  $\mu\text{F}$  • **Temperature Range:** -40°C to +85°C

**Lifetime:** 20,000 Hours

[www.kemet.com/ALS60-61](http://www.kemet.com/ALS60-61)



| ALS6                                    | 0                                              | A                     | 561                                                                                                | KE                  | 550                 |
|-----------------------------------------|------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------|---------------------|---------------------|
| Series                                  | Stud Option                                    | Termination           | Capacitance Code ( $\mu\text{F}$ )                                                                 | Size Code           | Rated Voltage (VDC) |
| Screw Terminal<br>Aluminum Electrolytic | 0 = Plain Can<br>1 = Threaded mounting<br>stud | See Termination Table | First two digits<br>represent significant<br>figures. Third digit<br>specifies number of<br>zeros. | See Dimension Table | 550 = 550           |

| Case Size | Voltage                               |
|-----------|---------------------------------------|
|           | 550                                   |
| 51 x 82   | 560 $\mu\text{F}$                     |
| 51 x 105  | 680 $\mu\text{F}$ – 820 $\mu\text{F}$ |
| 51 x 115  | 1 mF                                  |
| 51 x 131  | 1.2 mF                                |
| 66 x 82   | 1 mF                                  |
| 66 x 105  | 1.2 mF                                |
| 66 x 115  | 1.5 mF                                |
| 66 x 131  | 1.8 mF                                |
| 66 x 146  | 2.2 mF                                |
| 77 x 105  | 1.8 mF                                |
| 77 x 115  | 2.2 mF                                |
| 77 x 131  | 2.7 mF                                |
| 77 x 146  | 3.3 mF                                |
| 90 x 98   | 2.2 mF                                |

*Lifetime based on applying rated voltage, temperature and ripple current.*

## Screw Terminal (cont.)

**ALS40/41 High CV Value and Long Life 105°C, 25 – 500 VDC**

**Capacitance Range:** 150 to 680,000 µF • **Temperature Range:** -40°C to +105°C

**Lifetime:** 9,000 Hours

[www.kemet.com/ALS40-41](http://www.kemet.com/ALS40-41)



| ALS4                                 | 0                                           | A                     | 153                                                                                    | DA                  | 025                                                                                                                                                   |
|--------------------------------------|---------------------------------------------|-----------------------|----------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Series                               | Stud Option                                 | Termination           | Capacitance Code (µF)                                                                  | Size Code           | Rated Voltage (VDC)                                                                                                                                   |
| Screw Terminal Aluminum Electrolytic | 0 = Plain Can<br>1 = Threaded mounting stud | See Termination Table | First two digits represent significant figures. Third digit specifies number of zeros. | See Dimension Table | 025 = 25<br>040 = 40<br>063 = 63<br>100 = 100<br>160 = 160<br>200 = 200<br>250 = 250<br>350 = 350<br>400 = 400<br>415 = 415<br>450 = 450<br>500 = 500 |

| Case Size | Voltage |        |        |        |        |        |        |        |        |                 |        |
|-----------|---------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|--------|
|           | 25      | 40     | 63     | 100    | 200    | 250    | 350    | 400    | 415    | 450             | 500    |
| 36 x 52   | 15 mF   | 10 mF  | 3.3 mF | 1.5 mF | 680 µF | 470 µF | 220 µF | 220 µF | 220 µF | 150 µF          | 220 µF |
| 36 x 62   | 22 mF   | 10 mF  | 4.7 mF | 2.2 mF | 680 µF | 680 µF | 330 µF | 220 µF | 220 µF | 150 µF          | 220 µF |
| 36 x 82   | 33 mF   | 15 mF  | 6.8 mF | 3.3 mF | 1 mF   | 1 mF   | 470 µF | 470 µF | 330 µF | 220 µF          | 330 µF |
| 36 x 105  | 47 mF   | 22 mF  | 10 mF  | 4.7 mF | 1.5 mF | 1 mF   | 680 µF | 470 µF | 470 µF | 330 µF          | 470 µF |
| 51 x 82   | 68 mF   | 33 mF  | 15 mF  | 6.8 mF | 2.2 mF | 1.5 mF | 1 mF   | 680 µF | 680 µF | 470 µF          | 680 µF |
| 51 x 105  | 100 mF  | 47 mF  | 22 mF  | 10 mF  | 3.3 mF | 2.2 mF | 1.5 mF | 1 mF   | 1 mF   | 680 µF          | 1 mF   |
| 66 x 105  | 150 mF  | 100 mF | 33 mF  | 15 mF  | 6.8 mF | 4.7 mF | 2.2 mF | 2.2 mF | 2.2 mF | 1.5 mF          |        |
| 77 x 75   | 150 mF  | 68 mF  | 22 mF  | 15 mF  | 4.7 mF | 3.3 mF | 2.2 mF | 1.5 mF | 1.5 mF | 1 mF            | 1.5 mF |
| 77 x 105  | 220 mF  | 100 mF | 47 mF  | 22 mF  | 6.8 mF | 6.8 mF | 3.3 mF | 2.2 mF | 2.2 mF | 1.5 mF          | 2.2 mF |
| 77 x 146  | 330 mF  | 150 mF | 68 mF  | 33 mF  | 10 mF  | 10 mF  | 4.7 mF | 4.7 mF | 3.3 mF | 2.2 mF – 3.3 mF | 3.3 mF |
| 77 x 220  | 470 mF  | 220 mF | 100 mF | 47 mF  | 22 mF  | 15 mF  | 6.8 mF | 6.8 mF | 6.8 mF | 4.7 mF          | 4.7 mF |
| 90 x 67   | 220 mF  | 100 mF | 33 mF  | 22 mF  | 6.8 mF | 4.7 mF | 2.2 mF | 2.2 mF | 2.2 mF | 1.5 mF          | 1.5 mF |
| 90 x 75   | 150 mF  | 100 mF | 33 mF  | 15 mF  | 6.8 mF | 4.7 mF | 2.2 mF | 2.2 mF | 2.2 mF | 1.5 mF          | 2.2 mF |
| 90 x 98   | 330 mF  | 150 mF | 47 mF  | 22 mF  | 10 mF  | 6.8 mF | 4.7 mF | 3.3 mF | 3.3 mF | 2.2 mF          | 3.3 mF |
| 90 x 146  | 470 mF  | 220 mF | 100 mF | 47 mF  | 15 mF  | 15 mF  | 6.8 mF | 6.8 mF | 4.7 mF | 3.3 mF          | 3.3 mF |
| 90 x 220  | 680 mF  | 330 mF | 150 mF | 100 mF | 33 mF  | 22 mF  | 10 mF  | 10 mF  | 10 mF  | 6.8 mF          | 6.8 mF |

*Lifetime based on applying rated voltage, temperature and ripple current.*

# Aluminum Electrolytic Capacitors

## Snap-In

**ELH General Purpose Low Impedance 85°C, 6.3 – 500 VDC**

**Capacitance Range:** 47 to 120,000 µF • **Temperature Range:** -40°C to +85°C

**Lifetime:** 2,000 Hours

[www.kemet.com/ELH](http://www.kemet.com/ELH)



| ELH                           | 159                                                                                                                          | M         | 6R3                                                                                                        |                                                                                                                   | A                     | Q1                  | AA                         |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------|----------------------------|
| Series                        | Capacitance Code (pF)                                                                                                        | Tolerance | Rated Voltage (VDC)                                                                                        |                                                                                                                   | Electrical Parameters | Size Code           | Packaging                  |
| Snap-In Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = ±20%  | 6R3 = 6.3<br>010 = 10<br>016 = 16<br>025 = 25<br>035 = 35<br>050 = 50<br>063 = 63<br>080 = 80<br>100 = 100 | 160 = 160<br>180 = 180<br>200 = 200<br>250 = 250<br>350 = 350<br>400 = 400<br>420 = 420<br>450 = 450<br>500 = 500 | A = Standard          | See Dimension Table | See Ordering Options Table |

| Case Size | Voltage         |                 |                 |                 |                 |                 |                 |                 |                 |
|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|           | 6.3             | 10              | 16              | 25              | 35              | 50              | 63              | 80              | 100             |
| 22 x 25   | 15 mF           | 12 mF           | 8.2 mF          | 5.6 mF          | 3.9 mF          | 2.2 mF          | 1.8 mF          | 1.2 mF          | 820 µF          |
| 22 x 30   | 18 mF – 0.022 F | 15 mF           | 10 mF – 0.012 F | 6.8 mF          | 4.7 mF          | 2.7 mF – 3.3 mF | 2.2 mF          | 1.5 mF          | 1 mF            |
| 22 x 35   | 27 mF           | 18 mF           | 15 mF           | 8.2 mF          | 5.6 mF          | 3.9 mF          | 2.7 mF          | 1.8 mF          | 1.2 mF          |
| 22 x 40   | 33 mF           | 22 mF           | 18 mF           | 10 mF           | 6.8 mF          | 4.7 mF          | 3.3 mF          | 2.2 mF          | 1.5 mF          |
| 22 x 45   |                 | 27 mF           |                 | 12 mF           | 8.2 mF          | 5.6 mF          | 3.9 mF          | 2.7 mF          | 1.8 mF          |
| 22 x 50   | 39 mF           | 33 mF           | 22 mF           | 15 mF           | 10 mF           | 6.8 mF          | 4.7 mF          | 3.3 mF          | 2.2 mF          |
| 25 x 25   | 18 mF – 0.022 F | 15 mF – 0.018 F | 10 mF – 0.012 F | 6.8 mF – 8.2 mF | 4.7 mF – 5.6 mF | 2.7 mF – 3.3 mF | 2.2 mF          | 1.5 mF          | 1 mF            |
| 25 x 30   | 27 mF           | 22 mF           | 15 mF           | 10 mF           | 6.8 mF          | 3.9 mF          | 2.7 mF – 3.3 mF | 1.8 mF – 2.2 mF | 1.2 mF – 1.5 mF |
| 25 x 35   | 33 mF           | 27 mF           | 18 mF           | 12 mF           | 8.2 mF          | 4.7 mF          | 3.9 mF          | 2.7 mF          | 1.8 mF          |
| 25 x 40   | 39 mF           | 33 mF           | 22 mF           | 15 mF           | 10 mF           | 5.6 mF – 6.8 mF | 4.7 mF          | 3.3 mF          | 2.2 mF          |
| 25 x 45   | 47 mF           | 39 mF           | 27 mF           | 18 mF           | 12 mF           |                 | 5.6 mF          | 3.9 mF          | 2.7 mF          |
| 25 x 50   | 56 mF           | 47 mF           |                 |                 | 15 mF           | 8.2 mF          |                 | 4.7 mF          | 3.3 mF          |
| 30 x 25   | 27 mF           | 22 mF           | 15 mF           | 10 mF           | 6.8 mF          | 3.9 mF – 4.7 mF | 2.7 mF – 3.3 mF | 1.8 mF – 2.2 mF | 1.5 mF          |
| 30 x 30   | 33 mF – 0.039 F | 27 mF – 0.033 F | 18 mF – 0.022 F | 12 mF           | 8.2 mF – 0.01 F | 5.6 mF – 6.8 mF | 3.9 mF – 4.7 mF | 2.7 mF – 3.3 mF | 1.8 mF – 2.2 mF |
| 30 x 35   | 47 mF           | 39 mF           | 27 mF           | 15 mF – 0.018 F | 12 mF           | 6.8 mF          | 5.6 mF          | 3.9 mF          | 2.7 mF          |
| 30 x 40   | 56 mF           | 47 mF           | 33 mF           | 22 mF           | 15 mF           | 8.2 mF          | 6.8 mF          | 4.7 mF          | 3.3 mF          |
| 30 x 45   | 68 mF           | 56 mF           | 39 mF           | 22 mF           | 18 mF           | 10 mF           | 8.2 mF          | 5.6 mF          | 3.9 mF          |
| 30 x 50   | 82 mF           | 68 mF           | 47 mF           | 27 mF           | 22 mF           | 12 mF           | 10 mF           | 6.8 mF          |                 |
| 35 x 25   | 33 mF – 0.039 F | 33 mF           | 22 mF           | 12 mF           | 10 mF           | 5.6 mF          | 4.7 mF          | 2.7 mF – 3.3 mF | 1.8 mF – 2.2 mF |
| 35 x 30   | 47 mF – 0.056 F | 39 mF – 0.047 F | 27 mF – 0.033 F | 15 mF – 0.018 F | 12 mF           | 6.8 mF – 8.2 mF | 5.6 mF – 6.8 mF | 3.9 mF          | 2.7 mF – 3.3 mF |
| 35 x 35   | 68 mF           | 56 mF           | 39 mF           | 22 mF           | 15 mF           | 10 mF           | 8.2 mF          | 4.7 mF – 5.6 mF | 3.9 mF          |
| 35 x 40   | 82 mF           | 68 mF           | 47 mF           | 22 mF           | 18 mF           | 12 mF           | 10 mF           | 6.8 mF          | 4.7 mF          |
| 35 x 45   | 100 mF          |                 | 56 mF           | 27 mF – 0.039 F | 22 mF           | 15 mF           | 12 mF           | 8.2 mF          |                 |
| 35 x 50   | 120 mF          | 82 mF           | 68 mF           | 33 mF – 0.047 F | 27 mF           | 18 mF           |                 | 10 mF           | 5.6 mF          |
| 35 x 60   |                 |                 | 82 mF           |                 |                 |                 |                 |                 |                 |

Lifetime based on applying rated voltage, temperature and ripple current.

## Snap-In (cont.)

### ELH General Purpose Low Impedance 85°C, 6.3 – 500 VDC (cont.)

Capacitance Range: 47 to 120,000 µF • Temperature Range: -40°C to +85°C

Lifetime: 2,000 Hours

[www.kemet.com/ELH](http://www.kemet.com/ELH)



| ELH                           | 159                                                                                                                          | M         | 6R3                                                                                                        |                                                                                                                   | A                     | Q1                  | AA                         |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------|----------------------------|
| Series                        | Capacitance Code (pF)                                                                                                        | Tolerance | Rated Voltage (VDC)                                                                                        |                                                                                                                   | Electrical Parameters | Size Code           | Packaging                  |
| Snap-In Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = ±20%  | 6R3 = 6.3<br>010 = 10<br>016 = 16<br>025 = 25<br>035 = 35<br>050 = 50<br>063 = 63<br>080 = 80<br>100 = 100 | 160 = 160<br>180 = 180<br>200 = 200<br>250 = 250<br>350 = 350<br>400 = 400<br>420 = 420<br>450 = 450<br>500 = 500 | A = Standard          | See Dimension Table | See Ordering Options Table |

| Case Size | Voltage         |                 |                 |                 |                 |                 |                 |                 |                 |
|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|           | 160             | 180             | 200             | 250             | 350             | 400             | 420             | 450             | 500             |
| 22 x 20   |                 | 180 µF          |                 | 120 µF          | 68 µF           | 56 µF           |                 |                 |                 |
| 22 x 25   | 270 µF – 330 µF | 220 µF – 330 µF | 180 µF – 330 µF | 150 µF – 180 µF | 82 µF           | 68 µF – 100 µF  |                 | 47 µF – 68 µF   |                 |
| 22 x 30   | 390 µF – 560 µF | 330 µF – 390 µF | 270 µF – 390 µF | 220 µF – 330 µF | 100 µF – 120 µF | 100 µF – 120 µF | 120 µF          | 68 µF – 120 µF  |                 |
| 22 x 35   |                 | 470 µF – 560 µF | 470 µF          | 220 µF – 390 µF | 150 µF          | 120 µF          | 150 µF          | 100 µF – 150 µF |                 |
| 22 x 40   | 680 µF          | 560 µF          | 560 µF          | 470 µF          | 180 µF          | 180 µF          | 180 µF          | 120 µF          | 100 µF          |
| 22 x 45   | 820 µF          | 680 µF          | 680 µF          | 560 µF          | 220 µF          | 180 µF          | 220 µF          | 150 µF – 220 µF |                 |
| 22 x 50   | 1 mF            | 820 µF          |                 |                 |                 | 220 µF – 270 µF | 220 µF          |                 | 150 µF          |
| 25 x 20   | 330 µF          | 270 µF          |                 | 180 µF          | 82 µF – 100 µF  | 68 µF – 82 µF   |                 |                 | 47 µF           |
| 25 x 25   | 390 µF – 470 µF | 330 µF – 390 µF | 270 µF – 390 µF | 220 µF – 330 µF | 120 µF          | 100 µF – 120 µF |                 | 68 µF – 82 µF   |                 |
| 25 x 30   | 560 µF – 680 µF | 470 µF – 560 µF | 470 µF          |                 | 150 µF – 180 µF | 150 µF          | 150 µF          | 100 µF – 120 µF |                 |
| 25 x 35   | 820 µF          | 680 µF          | 560 µF – 680 µF | 390 µF – 470 µF | 220 µF          | 180 µF          |                 | 150 µF          |                 |
| 25 x 40   | 1 mF            | 820 µF          | 820 µF          | 560 µF          | 270 µF          | 220 µF – 270 µF | 220 µF – 270 µF | 180 µF          |                 |
| 25 x 45   | 1.2 mF          | 1 mF            | 820 µF – 1 mF   | 680 µF          |                 | 330 µF          | 220 µF – 330 µF |                 |                 |
| 25 x 50   |                 |                 | 1 mF – 1.2 mF   |                 | 330 µF          | 330 µF          | 330 µF          | 220 µF – 270 µF |                 |
| 30 x 25   | 390 µF – 680 µF | 470 µF – 560 µF | 470 µF – 560 µF | 330 µF – 390 µF | 150 µF – 180 µF | 150 µF          | 150 µF          | 100 µF – 120 µF | 100 µF          |
| 30 x 30   | 820 µF – 1 mF   | 680 µF – 820 µF | 680 µF – 820 µF | 470 µF – 560 µF | 220 µF          | 180 µF – 220 µF |                 | 150 µF          | 120 µF          |
| 30 x 35   | 1 mF – 1.2 mF   | 820 µF – 1 mF   | 820 µF – 1 mF   | 680 µF          | 270 µF          | 270 µF          |                 | 180 µF          |                 |
| 30 x 40   |                 | 1.2 mF          | 1 mF – 1.2 mF   |                 | 330 µF – 390 µF | 330 µF – 390 µF | 270 µF – 330 µF | 220 µF – 330 µF | 180 µF          |
| 30 x 45   | 1.5 mF          | 1.5 mF          | 1.2 mF – 1.5 mF | 820 µF – 1 mF   | 470 µF          | 390 µF – 470 µF | 330 µF – 470 µF | 270 µF – 390 µF | 220 µF          |
| 30 x 50   | 1.8 mF          |                 | 1.5 mF          |                 |                 | 470 µF – 560 µF | 470 µF – 560 µF | 330 µF – 470 µF | 270 µF          |
| 35 x 25   | 820 µF – 1 mF   | 680 µF – 820 µF | 680 µF          | 470 µF – 680 µF | 220 µF – 270 µF | 220 µF          |                 | 180 µF          | 120 µF          |
| 35 x 30   | 1.2 mF – 1.5 mF | 1 mF – 1.2 mF   | 820 µF – 1.2 mF | 820 µF          | 330 µF – 390 µF | 270 µF – 330 µF |                 | 220 µF          | 180 µF          |
| 35 x 35   | 1.5 mF          | 1.2 mF – 1.5 mF | 1.2 mF – 1.5 mF | 820 µF – 1 mF   | 470 µF          | 390 µF          |                 | 270 µF          | 150 µF – 220 µF |
| 35 x 40   | 1.8 mF – 2.2 mF | 1.5 mF – 1.8 mF | 1.5 mF – 1.8 mF | 1.2 mF          | 560 µF          | 470 µF          |                 | 330 µF          | 270 µF          |
| 35 x 45   | 2.2 mF          | 1.8 mF – 2.2 mF | 1.8 mF – 2.2 mF | 1.5 mF          | 680 µF          | 560 µF          | 560 µF          | 390 µF          | 330 µF          |
| 35 x 50   | 2.7 mF          | 2.2 mF          | 2.2 mF          |                 |                 | 680 µF          |                 | 470 µF – 560 µF | 390 µF          |
| 35 x 60   |                 |                 |                 |                 |                 |                 |                 | 680 µF          |                 |

Lifetime based on applying rated voltage, temperature and ripple current.

# Aluminum Electrolytic Capacitors

## Snap-In (cont.)

### ALC10 High Ripple and Long Life 85°C, 35 – 550 VDC

Capacitance Range: 56 to 82,000 µF • Temperature Range: -40°C to +85°C

Lifetime: 18,000 Hours

[www.kemet.com/ALC10](http://www.kemet.com/ALC10)



| ALC10                                 | A                     | 392                                                                                                | BB                  | 040                                                                     |                                                               |
|---------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------|---------------------------------------------------------------|
| Series                                | Termination           | Capacitance Code (µF)                                                                              | Size Code           | Rated Voltage (VDC)                                                     |                                                               |
| Snap-In type<br>Aluminum Electrolytic | See Termination Table | First two digits<br>represent significant<br>figures. Third digit<br>specifies number of<br>zeros. | See Dimension Table | 035 = 35<br>040 = 40<br>063 = 63<br>100 = 100<br>200 = 200<br>250 = 250 | 350 = 350<br>400 = 400<br>450 = 450<br>500 = 500<br>550 = 550 |

| Case<br>Size | Voltage |        |        |        |                 |                 |        |                 |                 |                 |        |
|--------------|---------|--------|--------|--------|-----------------|-----------------|--------|-----------------|-----------------|-----------------|--------|
|              | 35      | 40     | 63     | 100    | 200             | 250             | 350    | 400             | 450             | 500             | 550    |
| 25 x 30      |         | 3.9 mF | 2.2 mF | 1 mF   | 330 µF          | 220 µF          | 120 µF | 100 µF          | 68 µF           | 56 µF           | 56 µF  |
| 25 x 35      |         | 4.7 mF | 2.7 mF | 1.2 mF | 390 µF          | 270 µF – 330 µF | 150 µF | 120 µF          | 100 µF          | 68 µF           | 68 µF  |
| 25 x 40      |         | 5.6 mF | 3.3 mF | 1.5 mF | 470 µF          | 330 µF          | 180 µF | 150 µF          | 120 µF – 150 µF | 82 µF           | 82 µF  |
| 30 x 30      |         | 5.6 mF | 3.3 mF | 1.5 mF | 470 µF          | 330 µF          | 180 µF | 150 µF          | 120 µF – 150 µF | 82 µF – 100 µF  | 82 µF  |
| 30 x 35      |         | 6.8 mF | 4.7 mF | 1.8 mF | 560 µF          | 470 µF          | 270 µF | 180 µF – 220 µF | 150 µF          | 100 µF – 120 µF | 120 µF |
| 30 x 40      |         | 8.2 mF | 5.6 mF | 2.2 mF | 680 µF          | 560 µF          | 330 µF | 220 µF          | 180 µF          | 150 µF          | 150 µF |
| 30 x 50      |         | 12 mF  | 6.8 mF | 3.3 mF | 1 mF            | 680 µF          | 390 µF | 330 µF          | 220 µF – 330 µF | 180 µF          | 180 µF |
| 35 x 35      |         | 10 mF  | 6.8 mF | 2.7 mF | 820 µF          | 680 µF          | 390 µF | 270 µF – 330 µF | 220 µF – 270 µF | 180 µF          | 180 µF |
| 35 x 40      |         | 12 mF  | 8.2 mF | 3.3 mF | 1 mF            | 820 µF          | 470 µF | 330 µF          | 270 µF          | 220 µF          | 220 µF |
| 35 x 50      |         | 18 mF  | 10 mF  | 4.7 mF | 1.2 mF – 1.5 mF | 1 mF            | 560 µF | 390 µF – 560 µF | 330 µF – 470 µF | 270 µF          | 270 µF |
| 35 x 60      |         |        |        |        |                 | 1.2 mF          | 820 µF | 560 µF – 680 µF | 470 µF          | 390 µF          | 330 µF |
| 35 x 80      |         |        |        |        |                 | 1.8 mF          | 1 mF   | 820 µF – 1 mF   | 680 µF          | 560 µF          | 470 µF |
| 40 x 30      |         | 15 mF  | 8.2 mF | 2.7 mF | 820 µF          | 680 µF          | 330 µF | 270 µF          | 220 µF          | 180 µF          | 180 µF |
| 40 x 35      |         | 18 mF  | 10 mF  | 3.3 mF | 1 mF            |                 | 390 µF | 330 µF          | 270 µF          | 220 µF          | 220 µF |
| 40 x 40      |         | 22 mF  | 12 mF  | 3.9 mF | 1.2 mF          | 820 µF          | 470 µF | 390 µF – 470 µF | 330 µF          | 270 µF          | 270 µF |
| 40 x 45      |         |        |        | 4.7 mF | 1.5 mF          | 1 mF            | 560 µF | 470 µF          | 390 µF          | 330 µF          | 330 µF |
| 40 x 50      | 33 mF   | 27 mF  | 15 mF  | 5.6 mF | 1.8 mF          | 1.2 mF          | 680 µF | 560 µF          | 470 µF          | 390 µF          | 390 µF |
| 40 x 55      |         |        |        | 6.8 mF |                 | 1.5 mF          | 820 µF |                 |                 |                 |        |
| 40 x 60      |         | 33 mF  | 18 mF  | 8.2 mF | 2.2 mF          | 1.8 mF          | 820 µF | 680 µF          | 560 µF          | 470 µF          | 470 µF |
| 40 x 80      | 56 mF   | 47 mF  | 27 mF  | 12 mF  | 3.3 mF          | 2.2 mF          | 1.2 mF | 1 mF            | 820 µF – 1 mF   | 680 µF          | 680 µF |
| 40 x 105     |         | 82 mF  | 39 mF  | 18 mF  | 4.7 mF          | 3.9 mF          | 1.8 mF | 1.5 mF          | 1.2 mF          | 1 mF            | 1 mF   |
| 45 x 105     |         |        |        |        | 5.6 mF          | 4.7 mF          | 2.7 mF | 2.2 mF          | 1.8 mF          | 1.5 mF          | 1.2 mF |
| 50 x 105     |         |        |        |        | 8.2 mF          | 5.6 mF          | 3.3 mF | 2.7 mF          | 2.2 mF          | 1.8 mF          | 1.5 mF |

Lifetime based on applying rated voltage, temperature and ripple current.

## Snap-In (cont.)

### ELG General Purpose Low ESR 85°C, 6.3 – 500 VDC

Capacitance Range: 47 to 82,000 µF • Temperature Range: -40°C to +105°C and -25°C to +105°C

Lifetime: 2,000 Hours

[www.kemet.com/ELG](http://www.kemet.com/ELG)



| ELG                           | 129                                                                                                                          | M         | 6R3                                                                                                        |                                                                                                                   | A                     | Q1                  | AA                         |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------|----------------------------|
| Series                        | Capacitance Code (pF)                                                                                                        | Tolerance | Rated Voltage (VDC)                                                                                        |                                                                                                                   | Electrical Parameters | Size Code           | Packaging                  |
| Snap-In Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = ±20%  | 6R3 = 6.3<br>010 = 10<br>016 = 16<br>025 = 25<br>035 = 35<br>050 = 50<br>063 = 63<br>080 = 80<br>100 = 100 | 160 = 160<br>180 = 180<br>200 = 200<br>250 = 250<br>350 = 350<br>400 = 400<br>420 = 420<br>450 = 450<br>500 = 500 | A = Standard          | See Dimension Table | See Ordering Options Table |

| Case Size | Voltage         |                 |                 |                 |                 |                 |                 |                 |                 |
|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|           | 6.3             | 10              | 16              | 25              | 35              | 50              | 63              | 80              | 100             |
| 22 x 25   | 12 mF           |                 | 6.8 mF          | 4.7 mF          | 3.3 mF          | 1.8 mF          | 1.2 mF          | 820 µF          | 560 µF – 680 µF |
| 22 x 30   | 15 mF – 0.018 F | 12 mF – 0.015 F | 8.2 mF – 0.01 F | 5.6 mF – 6.8 mF | 3.9 mF          | 2.2 mF – 2.7 mF | 1.5 mF – 1.8 mF | 1 mF – 1.2 mF   | 820 µF          |
| 22 x 35   | 22 mF           | 18 mF           | 12 mF           | 8.2 mF          | 4.7 mF – 5.6 mF | 3.3 mF          | 2.2 mF          | 1.5 mF          | 1 mF            |
| 22 x 40   | 27 mF           | 22 mF           | 15 mF           | 10 mF           | 6.8 mF          | 3.9 mF          | 2.7 mF          | 1.8 mF          | 1.2 mF          |
| 22 x 45   | 33 mF           |                 | 18 mF           | 12 mF           |                 | 4.7 mF          |                 | 2.2 mF          | 1.5 mF          |
| 22 x 50   |                 | 27 mF           |                 |                 | 8.2 mF          | 5.6 mF          | 3.3 mF          |                 |                 |
| 25 x 25   | 15 mF – 0.018 F | 10 mF – 0.015 F | 8.2 mF – 0.01 F | 5.6 mF – 6.8 mF | 3.9 mF – 4.7 mF | 2.2 mF – 2.7 mF | 1.5 mF – 1.8 mF | 1 mF – 1.2 mF   | 820 µF          |
| 25 x 30   | 22 mF           | 18 mF           | 12 mF           | 8.2 mF          | 5.6 mF          | 3.3 mF          | 2.2 mF          | 1.5 mF          | 1 mF            |
| 25 x 35   | 27 mF           | 22 mF           | 15 mF           | 10 mF           | 6.8 mF          | 3.9 mF          | 2.7 mF          | 1.8 mF – 2.2 mF | 1.2 mF          |
| 25 x 40   | 33 mF           | 27 mF           | 18 mF           | 12 mF           | 8.2 mF          | 4.7 mF – 5.6 mF | 3.3 mF          |                 | 1.5 mF          |
| 25 x 45   |                 | 33 mF           | 22 mF           | 15 mF           | 10 mF           |                 | 3.9 mF          | 2.7 mF          | 1.8 mF          |
| 25 x 50   | 39 mF – 0.047 F | 39 mF           | 27 mF           | 18 mF           | 12 mF           | 6.8 mF          | 4.7 mF          | 3.3 mF          | 2.2 mF          |
| 30 x 25   | 22 mF           | 22 mF           | 12 mF           | 8.2 mF          | 5.6 mF          | 3.9 mF          | 2.2 mF – 2.7 mF | 1.5 mF – 1.8 mF | 1.2 mF          |
| 30 x 30   | 27 mF – 0.033 F | 27 mF           | 15 mF – 0.018 F | 10 mF – 0.012 F | 6.8 mF – 8.2 mF | 4.7 mF          | 3.3 mF          | 2.2 mF          | 1.5 mF          |
| 30 x 35   | 39 mF           | 33 mF           | 22 mF           | 15 mF           | 10 mF           | 5.6 mF          | 3.9 mF          | 2.7 mF          | 1.8 mF          |
| 30 x 40   | 47 mF           | 39 mF           | 27 mF           | 18 mF           | 12 mF           | 6.8 mF          | 4.7 mF          | 3.3 mF          | 2.2 mF          |
| 30 x 45   | 56 mF           | 47 mF           | 33 mF           | 22 mF           | 15 mF           | 8.2 mF          | 5.6 mF          | 3.9 mF          | 2.7 mF          |
| 30 x 50   | 68 mF           | 56 mF           | 39 mF           |                 | 22 mF           | 10 mF           | 6.8 mF          | 4.7 mF          | 3.3 mF – 3.9 mF |
| 35 x 25   | 27 mF – 0.033 F | 27 mF           | 15 mF – 0.018 F | 10 mF – 0.012 F | 6.8 mF – 8.2 mF | 4.7 mF          | 3.3 mF          | 2.2 mF          | 1.5 mF          |
| 35 x 30   | 39 mF           | 33 mF – 0.039 F | 22 mF – 0.027 F | 15 mF           | 10 mF – 0.012 F | 5.6 mF – 6.8 mF | 3.9 mF – 4.7 mF | 2.7 mF – 3.3 mF | 1.8 mF – 2.2 mF |
| 35 x 35   | 56 mF           | 47 mF           | 33 mF           | 18 mF – 0.022 F | 15 mF           | 8.2 mF          | 5.6 mF          | 3.9 mF          | 2.7 mF          |
| 35 x 40   | 68 mF           | 56 mF           | 39 mF           |                 | 18 mF           | 10 mF           | 6.8 mF          | 4.7 mF          | 3.3 mF          |
| 35 x 45   | 82 mF           |                 | 47 mF – 0.056 F | 27 mF – 0.039 F |                 | 12 mF           | 8.2 mF          | 5.6 mF          | 3.9 mF          |
| 35 x 50   |                 | 68 mF           | 68 mF           | 33 mF – 0.047 F |                 |                 | 10 mF           | 6.8 mF          | 4.7 mF          |

Lifetime based on applying rated voltage, temperature and ripple current.

# Aluminum Electrolytic Capacitors

## Snap-In (cont.)

### ELG General Purpose Low ESR 85°C, 6.3 – 500 VDC (cont.)

Capacitance Range: 47 to 82,000 µF • Temperature Range: -40°C to +105°C and -25°C to +105°C

Lifetime: 2,000 Hours

[www.kemet.com/ELG](http://www.kemet.com/ELG)



| ELG                           | 129                                                                                                                          | M         | 6R3                                                                                                        |                                                                                                                   | A                     | Q1                  | AA                         |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------|----------------------------|
| Series                        | Capacitance Code (µF)                                                                                                        | Tolerance | Rated Voltage (VDC)                                                                                        |                                                                                                                   | Electrical Parameters | Size Code           | Packaging                  |
| Snap-In Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = ±20%  | 6R3 = 6.3<br>010 = 10<br>016 = 16<br>025 = 25<br>035 = 35<br>050 = 50<br>063 = 63<br>080 = 80<br>100 = 100 | 160 = 160<br>180 = 180<br>200 = 200<br>250 = 250<br>350 = 350<br>400 = 400<br>420 = 420<br>450 = 450<br>500 = 500 | A = Standard          | See Dimension Table | See Ordering Options Table |

| Case Size | Voltage         |                 |                 |                 |                 |                 |                 |                 |                 |
|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|           | 160             | 180             | 200             | 250             | 350             | 400             | 420             | 450             | 500             |
| 22 x 20   | 220 µF          | 180 µF          | 150 µF – 180 µF | 120 µF          | 56 µF           | 47 µF – 56 µF   |                 |                 |                 |
| 22 x 25   | 270 µF – 330 µF | 220 µF – 330 µF | 220 µF – 270 µF | 150 µF – 180 µF | 68 µF – 82 µF   | 68 µF – 82 µF   |                 | 47 µF – 56 µF   | 47 µF           |
| 22 x 30   | 390 µF – 470 µF | 330 µF – 470 µF | 330 µF – 390 µF | 220 µF          | 100 µF          | 82 µF – 120 µF  |                 | 68 µF – 100 µF  | 56 µF           |
| 22 x 35   | 470 µF          | 470 µF          | 390 µF – 470 µF | 270 µF          | 120 µF          | 100 µF – 150 µF | 150 µF          | 82 µF – 120 µF  | 82 µF           |
| 22 x 40   | 560 µF          | 560 µF          | 470 µF          | 330 µF          | 150 µF          | 150 µF – 180 µF | 150 µF – 180 µF | 100 µF – 150 µF |                 |
| 22 x 45   | 680 µF          | 680 µF          | 560 µF          | 390 µF          | 180 µF          |                 | 270 µF          | 120 µF – 180 µF | 100 µF          |
| 22 x 50   | 820 µF          | 680 µF – 820 µF | 680 µF          | 470 µF          | 220 µF          | 180 µF          |                 | 150 µF – 270 µF | 120 µF          |
| 25 x 20   | 330 µF          | 270 µF          | 220 µF          | 180 µF          | 82 µF           | 68 µF           |                 |                 |                 |
| 25 x 25   | 390 µF – 470 µF | 330 µF – 390 µF | 270 µF – 330 µF | 220 µF          | 100 µF          | 82 µF           |                 | 68 µF           | 68 µF           |
| 25 x 30   | 560 µF          | 470 µF          | 390 µF – 470 µF | 270 µF – 330 µF | 120 µF – 150 µF | 100 µF – 150 µF | 150 µF          | 82 µF – 100 µF  | 82 µF           |
| 25 x 35   | 680 µF          | 560 µF – 680 µF | 560 µF          | 390 µF          | 180 µF          | 150 µF          | 180 µF          | 120 µF          | 120 µF          |
| 25 x 40   | 820 µF          | 680 µF – 820 µF | 680 µF          | 470 µF          | 220 µF          | 180 µF          | 220 µF          | 150 µF          |                 |
| 25 x 45   | 1 mF            | 820 µF – 1 mF   |                 | 560 µF          | 270 µF          | 220 µF – 270 µF | 220 µF          | 180 µF          |                 |
| 25 x 50   | 1.2 mF          | 1 mF – 1.2 mF   | 820 µF          | 680 µF          |                 | 270 µF – 330 µF | 330 µF          | 220 µF          | 180 µF          |
| 30 x 25   | 560 µF – 680 µF | 470 µF – 560 µF | 390 µF – 470 µF | 270 µF – 330 µF | 120 µF – 150 µF | 120 µF          |                 | 82 µF – 100 µF  | 100 µF          |
| 30 x 30   | 820 µF          | 680 µF – 820 µF | 560 µF – 680 µF | 390 µF – 470 µF | 180 µF – 220 µF | 150 µF – 180 µF |                 | 120 µF – 150 µF | 120 µF          |
| 30 x 35   | 1 mF            | 820 µF – 1 mF   | 820 µF          | 560 µF – 680 µF | 270 µF          | 220 µF          |                 | 180 µF          | 150 µF          |
| 30 x 40   | 1.2 mF          | 1 mF – 1.2 mF   | 1 mF            | 680 µF          | 330 µF          | 270 µF          | 220 µF – 330 µF | 220 µF          | 180 µF          |
| 30 x 45   | 1.5 mF          | 1.2 mF – 1.5 mF | 1 mF            | 820 µF          | 390 µF          | 330 µF – 470 µF | 390 µF          | 270 µF – 330 µF | 150 µF – 220 µF |
| 30 x 50   | 1.8 mF          | 1.5 mF – 1.8 mF | 1.2 mF          |                 |                 | 390 µF – 470 µF | 470 µF          | 330 µF – 390 µF | 270 µF          |
| 30 x 60   |                 |                 |                 |                 |                 | 560 µF          |                 |                 |                 |
| 35 x 25   | 820 µF          | 680 µF – 820 µF | 680 µF          | 470 µF          | 220 µF          | 150 µF          |                 | 120 µF – 150 µF | 150 µF          |
| 35 x 30   | 1 mF – 1.2 mF   | 1 mF – 1.2 mF   | 820 µF – 1 mF   | 560 µF          | 270 µF          | 220 µF          | 270 µF          | 180 µF – 220 µF | 180 µF          |
| 35 x 35   | 1.5 mF          | 1.2 mF – 1.5 mF | 1 mF            | 680 µF – 820 µF | 330 µF – 390 µF | 270 µF – 330 µF | 330 µF          | 270 µF          | 220 µF          |
| 35 x 40   |                 | 1.5 mF          | 1.2 mF          | 1 mF            | 470 µF          | 390 µF – 470 µF | 470 µF          | 330 µF          | 270 µF          |
| 35 x 45   | 1.8 mF          |                 | 1.5 mF          |                 | 560 µF          | 470 µF – 560 µF | 560 µF          | 390 µF – 470 µF | 330 µF          |
| 35 x 50   | 2.2 mF          | 1.8 mF – 2.2 mF | 1.8 mF          | 1.5 mF          |                 | 560 µF – 1 mF   |                 | 470 µF – 560 µF | 390 µF          |
| 35 x 60   |                 |                 |                 |                 |                 | 680 µF          |                 | 560 µF          | 470 µF          |

Lifetime based on applying rated voltage, temperature and ripple current.

## Snap-In (cont.)

**ELD High Reliability and High Ripple Current 105°C, 10 – 500 VDC**

**Capacitance Range:** 56 to 68,000 µF • **Temperature Range:** -40°C to +105°C and -25°C to +105°C

**Lifetime:** 3,000 Hours

[www.kemet.com/ELD](http://www.kemet.com/ELD)



| ELD                           | 109                                                                                                                          | M         | 010                                                                                          |                                                                                                                   | A                     | Q1                  | AA                         |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------|----------------------------|
| Series                        | Capacitance Code (pF)                                                                                                        | Tolerance | Rated Voltage (VDC)                                                                          |                                                                                                                   | Electrical Parameters | Size Code           | Packaging                  |
| Snap-In Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = ±20%  | 010 = 10<br>016 = 16<br>025 = 25<br>035 = 35<br>050 = 50<br>063 = 63<br>80 = 80<br>100 = 100 | 160 = 160<br>180 = 180<br>200 = 200<br>250 = 250<br>315 = 315<br>350 = 350<br>400 = 400<br>450 = 450<br>500 = 500 | A = Standard          | See Dimension Table | See Ordering Options Table |

| Case Size | Voltage         |                 |                 |                 |                 |                 |                 |                 |
|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|           | 10              | 16              | 25              | 35              | 50              | 63              | 80              | 100             |
| 22 x 25   | 10 mF           | 6.8 mF          | 3.9 mF          | 2.7 mF          | 1.5 mF          | 1.2 mF          | 820 µF          | 560 µF          |
| 22 x 30   | 12 mF           | 8.2 mF          | 4.7 mF – 5.6 mF | 3.3 mF – 3.9 mF | 1.8 mF – 2.2 mF | 1.5 mF          | 1 mF            | 680 µF – 820 µF |
| 22 x 35   | 15 mF           | 10 mF           | 6.8 mF          | 4.7 mF          | 2.7 mF          | 1.8 mF          | 1.2 mF          | 1 mF            |
| 22 x 40   | 18 mF           | 12 mF           | 8.2 mF          | 5.6 mF          | 3.3 mF          | 2.2 mF          | 1.5 mF          | 1.2 mF          |
| 22 x 45   | 22 mF           | 15 mF           | 10 mF           | 6.8 mF          | 3.9 mF          | 2.7 mF          | 1.8 mF          | 1.5 mF          |
| 22 x 50   |                 | 18 mF           | 12 mF           | 8.2 mF          | 4.7 mF          |                 |                 |                 |
| 25 x 25   | 12 mF           | 8.2 mF          | 5.6 mF          | 4.7 mF          | 2.2 mF          | 1.5 mF          | 1.2 mF          | 820 µF          |
| 25 x 30   | 15 mF – 0.018 F | 10 mF – 0.012 F | 6.8 mF          | 5.6 mF          | 2.7 mF – 3.3 mF | 1.8 mF – 2.2 mF | 1.5 mF          | 1 mF            |
| 25 x 35   | 22 mF           | 15 mF           | 8.2 mF          | 6.8 mF          | 3.9 mF          | 2.7 mF          | 1.8 mF          | 1.2 mF          |
| 25 x 40   | 27 mF           | 18 mF           | 10 mF           | 8.2 mF          | 4.7 mF          | 3.3 mF          | 2.2 mF          | 1.5 mF          |
| 25 x 45   | 33 mF           | 22 mF           | 12 mF           | 10 mF           | 5.6 mF          | 3.9 mF          | 2.7 mF          | 1.8 mF          |
| 25 x 50   | 39 mF           |                 | 15 mF           | 12 mF           |                 | 4.7 mF          |                 | 2.2 mF          |
| 30 x 25   | 15 mF           | 12 mF           | 8.2 mF          | 5.6 mF          | 3.3 mF          | 2.2 mF          | 1.5 mF          | 1.2 mF          |
| 30 x 30   | 18 mF – 0.022 F | 15 mF – 0.018 F | 10 mF           | 6.8 mF – 8.2 mF | 3.9 mF – 4.7 mF | 2.7 mF – 3.3 mF | 1.8 mF – 2.2 mF | 1.5 mF          |
| 30 x 35   | 27 mF           | 22 mF           | 12 mF           | 10 mF           | 5.6 mF          | 3.9 mF          | 2.7 mF          | 1.8 mF          |
| 30 x 40   | 33 mF           | 27 mF           | 15 mF           | 12 mF           | 6.8 mF          | 4.7 mF          | 3.3 mF          | 2.2 mF          |
| 30 x 45   | 39 mF           |                 | 18 mF           | 15 mF           | 8.2 mF          | 5.6 mF          | 3.9 mF          | 2.7 mF          |
| 30 x 50   |                 | 33 mF           | 22 mF           |                 |                 | 6.8 mF          |                 | 3.3 mF          |
| 35 x 25   | 22 mF           | 18 mF           | 12 mF           | 8.2 mF          | 4.7 mF          | 3.3 mF          | 2.2 mF          | 1.5 mF          |
| 35 x 30   | 27 mF – 0.033 F | 22 mF           | 15 mF           | 10 mF – 0.012 F | 5.6 mF – 6.8 mF | 3.9 mF – 4.7 mF | 2.7 mF          | 1.8 mF          |
| 35 x 35   | 39 mF           | 27 mF           | 18 mF           | 15 mF           | 8.2 mF          | 5.6 mF          | 3.3 mF – 3.9 mF | 2.2 mF – 2.7 mF |
| 35 x 40   | 47 mF           | 33 mF           | 22 mF           | 18 mF           | 10 mF           | 6.8 mF          | 4.7 mF          | 3.3 mF          |
| 35 x 45   | 56 mF           | 39 mF           | 27 mF           |                 |                 | 8.2 mF          |                 | 3.9 mF          |
| 35 x 50   | 68 mF           | 47 mF           |                 | 22 mF           | 12 mF           |                 | 5.6 mF          | 4.7 mF          |

*Lifetime based on applying rated voltage, temperature and ripple current.*

# Aluminum Electrolytic Capacitors

## Snap-In (cont.)

### ELD High Reliability and High Ripple Current 105°C, 10 – 500 VDC (cont.)

Capacitance Range: 56 to 68,000 µF • Temperature Range: -40°C to +105°C and -25°C to +105°C

Lifetime: 3,000 Hours

[www.kemet.com/ELD](http://www.kemet.com/ELD)



| ELD                           | 109                                                                                                                          | M         | 010                                                                                          |                                                                                                                   | A                     | Q1                  | AA                         |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------|----------------------------|
| Series                        | Capacitance Code (pF)                                                                                                        | Tolerance | Rated Voltage (VDC)                                                                          |                                                                                                                   | Electrical Parameters | Size Code           | Packaging                  |
| Snap-In Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = ±20%  | 010 = 10<br>016 = 16<br>025 = 25<br>035 = 35<br>050 = 50<br>063 = 63<br>80 = 80<br>100 = 100 | 160 = 160<br>180 = 180<br>200 = 200<br>250 = 250<br>315 = 315<br>350 = 350<br>400 = 400<br>450 = 450<br>500 = 500 | A = Standard          | See Dimension Table | See Ordering Options Table |

| Case Size | Voltage         |               |                 |                 |                 |        |                 |        |        |
|-----------|-----------------|---------------|-----------------|-----------------|-----------------|--------|-----------------|--------|--------|
|           | 160             | 180           | 200             | 250             | 315             | 350    | 400             | 450    | 500    |
| 22 x 25   | 270 µF          | 270 µF        | 220 µF          | 150 µF          | 82 µF           | 82 µF  | 68 µF           | 56 µF  | 47 µF  |
| 22 x 30   | 330 µF – 390 µF | 330 µF        | 270 µF – 330 µF | 180 µF – 220 µF | 100 µF – 120 µF | 100 µF | 82 µF           | 68 µF  | 56 µF  |
| 22 x 35   | 470 µF          | 390 µF        | 390 µF          | 270 µF          | 150 µF          | 120 µF | 100 µF          | 82 µF  | 82 µF  |
| 22 x 40   | 560 µF          | 270 µF        | 470 µF          |                 | 180 µF          | 150 µF | 120 µF          | 100 µF |        |
| 22 x 45   | 680 µF          | 560 µF        | 560 µF          | 390 µF          | 220 µF          | 180 µF | 150 µF          | 120 µF | 100 µF |
| 22 x 50   | 820 µF          | 680 µF        |                 | 470 µF          |                 | 220 µF | 180 µF          | 150 µF | 120 µF |
| 25 x 25   | 390 µF          | 390 µF        | 330 µF          | 220 µF – 270 µF | 120 µF          | 100 µF | 82 µF – 100 µF  | 82 µF  | 68 µF  |
| 25 x 30   | 470 µF – 560 µF | 470 µF        | 390 µF          | 330 µF          | 150 µF          | 120 µF | 120 µF          | 100 µF | 82 µF  |
| 25 x 35   | 680 µF          | 560 µF        | 470 µF – 560 µF | 390 µF          | 180 µF          | 150 µF | 150 µF          | 120 µF | 120 µF |
| 25 x 40   | 820 µF          | 680 µF        |                 | 470 µF – 560 µF | 220 µF          | 180 µF | 180 µF          | 150 µF |        |
| 25 x 45   | 1 mF            | 820 µF        | 680 µF – 820 µF |                 | 270 µF          | 220 µF | 220 µF          | 180 µF | 150 µF |
| 25 x 50   |                 | 1 mF          |                 | 680 µF          | 330 µF          | 270 µF | 270 µF          | 220 µF | 180 µF |
| 30 x 25   | 560 µF          | 560 µF        | 470 µF          | 390 µF          | 180 µF          | 150 µF | 120 µF          | 120 µF | 100 µF |
| 30 x 30   | 680 µF – 820 µF | 680 µF        | 560 µF          | 470 µF          | 220 µF          | 180 µF | 150 µF – 180 µF | 150 µF | 120 µF |
| 30 x 35   | 1 mF            | 820 µF        | 680 µF – 820 µF | 560 µF          | 270 µF          | 220 µF | 220 µF          | 180 µF | 150 µF |
| 30 x 40   | 1.2 mF          | 1 mF          |                 | 680 µF          | 330 µF          | 270 µF | 270 µF          | 220 µF | 180 µF |
| 30 x 45   |                 | 1.2 mF        | 1 mF            | 820 µF          | 390 µF          | 330 µF | 330 µF          | 270 µF | 220 µF |
| 30 x 50   | 1.5 mF          |               | 1.2 mF          | 1 mF            | 470 µF          | 390 µF | 390 µF          | 330 µF | 270 µF |
| 35 x 25   | 820 µF          | 680 µF        |                 | 390 µF          |                 | 220 µF | 150 µF – 180 µF | 180 µF | 150 µF |
| 35 x 30   | 1 mF            | 820 µF – 1 mF | 680 µF – 820 µF | 470 µF – 560 µF | 330 µF – 390 µF | 270 µF | 220 µF – 270 µF | 220 µF | 180 µF |
| 35 x 35   | 1.2 mF          | 1.2 mF        | 1 mF            | 680 µF          | 470 µF          | 330 µF | 330 µF          | 270 µF | 220 µF |
| 35 x 40   | 1.5 mF          | 1.5 mF        | 1.2 mF          | 820 µF          | 560 µF          | 390 µF | 390 µF          | 330 µF | 270 µF |
| 35 x 45   | 1.8 mF          |               | 1.5 mF          | 1 mF            | 680 µF          | 470 µF | 470 µF          | 390 µF | 330 µF |
| 35 x 50   | 2.2 mF          | 1.8 mF        |                 | 1.2 mF          |                 | 560 µF |                 | 470 µF | 390 µF |
| 35 x 60   |                 |               |                 |                 |                 |        |                 |        | 470 µF |

Lifetime based on applying rated voltage, temperature and ripple current.

## Snap-In (cont.)

### ALC40 High Ripple and Long Life 105°C, 25 – 500 VDC

Capacitance Range: 47 to 120,000 µF • Temperature Range: -40°C to +105°C

Lifetime: 9,000 Hours

[www.kemet.com/ALC40](http://www.kemet.com/ALC40)



| ALC40                                 | A                     | 822                                                                                                | BB                  | 025                                                        |                                                               |
|---------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------|---------------------------------------------------------------|
| Series                                | Termination           | Capacitance Code (µF)                                                                              | Size Code           | Rated Voltage (VDC)                                        |                                                               |
| Snap-In type<br>Aluminum Electrolytic | See Termination Table | First two digits<br>represent significant<br>figures. Third digit<br>specifies number of<br>zeros. | See Dimension Table | 025 = 25<br>040 = 40<br>063 = 63<br>100 = 100<br>200 = 200 | 250 = 250<br>350 = 350<br>400 = 400<br>450 = 450<br>500 = 500 |

| Case<br>Size | Voltage         |                 |                 |        |        |        |                 |                 |                 |        |
|--------------|-----------------|-----------------|-----------------|--------|--------|--------|-----------------|-----------------|-----------------|--------|
|              | 25              | 40              | 63              | 100    | 200    | 250    | 350             | 400             | 450             | 500    |
| 25 x 30      | 8.2 mF          | 3.9 mF          | 2.2 mF          | 820 µF | 270 µF | 220 µF | 120 µF          | 100 µF          | 47 µF           | 56 µF  |
| 25 x 35      | 10 mF           | 5.6 mF          | 3.3 mF          | 1 mF   | 390 µF | 270 µF | 150 µF          | 120 µF          | 56 µF           | 68 µF  |
| 25 x 40      | 12 mF           | 6.8 mF          | 3.9 mF          | 1.2 mF | 470 µF | 330 µF | 180 µF          | 150 µF          | 68 µF           | 82 µF  |
| 30 x 30      | 12 mF           | 5.6 mF          | 3.9 mF          | 1.2 mF | 470 µF | 330 µF | 180 µF          | 150 µF          | 68 µF           | 82 µF  |
| 30 x 35      | 15 mF           | 6.8 mF – 8.2 mF | 4.7 mF          | 1.5 mF | 560 µF | 390 µF | 220 µF          | 180 µF          | 82 µF           | 120 µF |
| 30 x 40      | 18 mF           | 10 mF           | 5.6 mF          | 1.8 mF | 680 µF | 470 µF | 270 µF          | 220 µF          | 100 µF          |        |
| 30 x 50      | 27 mF           | 12 mF           | 6.8 mF – 8.2 mF | 2.2 mF | 820 µF | 560 µF | 390 µF          | 330 µF          | 150 µF          | 180 µF |
| 35 x 35      | 22 mF           | 12 mF           | 6.8 mF          | 2.2 mF | 820 µF | 560 µF | 330 µF          | 270 µF          | 120 µF          | 150 µF |
| 35 x 40      | 27 mF           | 15 mF           | 8.2 mF          | 2.7 mF | 1 mF   | 680 µF | 390 µF          | 330 µF          | 150 µF          | 180 µF |
| 35 x 45      |                 |                 |                 |        |        |        |                 | 470 µF          |                 |        |
| 35 x 50      | 33 mF – 0.039 F | 18 mF           | 10 mF           | 3.3 mF | 1.2 mF | 820 µF | 470 µF – 560 µF | 390 µF – 470 µF | 180 µF – 330 µF | 270 µF |
| 35 x 60      |                 |                 |                 |        |        | 1 mF   | 560 µF          | 470 µF          | 330 µF – 470 µF | 330 µF |
| 35 x 80      |                 |                 |                 |        |        | 1.5 mF | 820 µF          | 680 µF          | 470 µF          | 470 µF |
| 40 x 30      | 27 mF           | 12 mF           | 5.6 mF          | 2.2 mF | 680 µF | 470 µF | 270 µF          | 220 µF          | 150 µF          | 180 µF |
| 40 x 35      | 33 mF           |                 | 6.8 mF          |        | 820 µF | 560 µF |                 | 270 µF          | 180 µF          | 220 µF |
| 40 x 40      | 39 mF           | 15 mF           | 8.2 mF          | 2.7 mF | 1 mF   | 680 µF | 390 µF          | 330 µF          | 220 µF          | 270 µF |
| 40 x 45      |                 | 18 mF           | 10 mF           | 3.3 mF | 1.2 mF | 820 µF | 470 µF          | 390 µF          |                 |        |
| 40 x 50      | 47 mF           | 22 mF           | 12 mF           | 3.9 mF | 1.5 mF | 1 mF   | 560 µF          | 470 µF          | 270 µF          | 390 µF |
| 40 x 55      | 56 mF           | 27 mF           |                 | 4.7 mF |        | 1.2 mF |                 | 560 µF          | 330 µF          | 470 µF |
| 40 x 60      |                 |                 | 15 mF           | 5.6 mF | 1.8 mF |        | 680 µF          | 680 µF          | 390 µF          |        |
| 40 x 80      | 82 mF           | 47 mF           | 22 mF           | 8.2 mF | 2.7 mF | 1.8 mF | 1 mF            | 1 mF            | 560 µF – 820 µF | 680 µF |
| 40 x 105     | 120 mF          | 68 mF           | 33 mF           | 10 mF  | 3.9 mF | 2.7 mF | 1.5 mF          | 1.2 mF          | 820 µF          | 820 µF |
| 45 x 105     |                 |                 |                 |        | 5.6 mF | 3.9 mF | 2.2 mF          | 1.8 mF          | 1.2 mF          | 1 mF   |
| 50 x 105     |                 |                 |                 |        | 6.8 mF | 4.7 mF | 2.7 mF          | 2.2 mF          | 1.5 mF          | 1.2 mF |

Lifetime based on applying rated voltage, temperature and ripple current.

# Aluminum Electrolytic Capacitors

## Surface Mount

### EDH Low Profile, High Voltage 105°C, 6.3 – 450 VDC

Capacitance Range: 1 to 2,200 µF • Temperature Range: -40°C to +105°C and -25°C to +105°C

Lifetime: 2,000 Hours

[www.kemet.com/EDH](http://www.kemet.com/EDH)



| EDH                                 | 226                                                                                                                          | M         | 6R3                                                                               |                                                                            | A                            | 9B                  | AA               |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------|---------------------|------------------|
| Series                              | Capacitance Code (pF)                                                                                                        | Tolerance | Rated Voltage (VDC)                                                               |                                                                            | Electrical Parameters        | Size Code           | Packaging        |
| Surface Mount Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = ±20%  | 6R3 = 6.3<br>010 = 10<br>016 = 16<br>025 = 25<br>035 = 35<br>050 = 50<br>063 = 63 | 100 = 100<br>160 = 160<br>200 = 200<br>250 = 250<br>400 = 400<br>450 = 450 | A = Standard<br>S = AEC-Q200 | See Dimension Table | AA = Tape & Reel |

| Case Size   | Voltage         |                 |                 |                 |                 |                 |                 |
|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|             | 6.3             | 10              | 16              | 25              | 35              | 50              | 63              |
| 4 x 5.4     | 22 µF – 47 µF   | 22 µF           | 10 µF – 22 µF   | 4.7 µF – 10 µF  | 4.7 µF – 6.8 µF | 1 µF – 3.3 µF   |                 |
| 5 x 5.4     | 47 µF           | 33 µF – 47 µF   | 22 µF – 47 µF   | 10 µF – 22 µF   | 10 µF           | 4.7 µF – 10 µF  |                 |
| 6.3 x 5.4   | 100 µF – 220 µF | 47 µF – 100 µF  | 47 µF – 100 µF  | 22 µF – 47 µF   | 22 µF           | 10 µF – 22 µF   |                 |
| 6.3 x 7.7   | 220 µF – 330 µF | 100 µF – 220 µF | 100 µF          | 47 µF – 100 µF  | 33 µF – 47 µF   | 22 µF – 47 µF   |                 |
| 8 x 10.2    | 330 µF – 470 µF | 220 µF – 470 µF | 220 µF – 470 µF | 100 µF – 220 µF | 47 µF – 220 µF  | 47 µF – 100 µF  | 33 µF – 47 µF   |
| 10 x 10.2   | 470 µF – 1.5 mF | 470 µF – 1 mF   | 220 µF – 470 µF | 220 µF – 470 µF | 100 µF – 330 µF | 100 µF – 220 µF | 100 µF – 150 µF |
| 12.5 x 13.5 | 2.2 mF          | 2.2 mF          | 1 mF            | 1 mF            | 470 µF – 680 µF | 330 µF          | 220 µF          |
| 12.5 x 16   |                 |                 |                 | 1.5 mF          |                 | 470 µF          | 220 µF          |
| 16 x 16.5   |                 |                 | 2.2 mF          | 2.2 mF          | 1 mF – 1.5 mF   | 1 mF            | 330 µF – 470 µF |

| Case Size   | Voltage        |                |               |                |                |                 |
|-------------|----------------|----------------|---------------|----------------|----------------|-----------------|
|             | 100            | 160            | 200           | 250            | 400            | 450             |
| 8 x 10.2    | 22 µF – 33 µF  |                |               |                |                |                 |
| 10 x 10.2   | 33 µF – 47 µF  |                |               |                |                |                 |
| 12.5 x 13.5 | 47 µF – 100 µF | 33 µF          | 10 µF         | 3.3 µF – 22 µF | 3.3 µF – 10 µF | 3.3 µF – 4.7 µF |
| 12.5 x 16   |                |                | 22 µF – 33 µF |                |                | 10 µF           |
| 16 x 16.5   |                | 47 µF – 100 µF | 47 µF         | 33 µF – 47 µF  | 22 µF – 33 µF  | 22 µF           |

Lifetime based on applying rated voltage, temperature and ripple current.

## Radial/Single-Ended

### ESK General Purpose 85°C, 6.3 – 500 VDC

Capacitance Range: 1 to 22,000  $\mu$ F • Temperature Range: -40°C to +85°C and -25°C to +85°C

Lifetime: 2,000 Hours

[www.kemet.com/ESK](http://www.kemet.com/ESK)



| ESK                                | 226                                                                                                                          | M             | 6R3                                                                               |                                                                                                      | A                     | C3                  | AA                         |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------|---------------------|----------------------------|
| Series                             | Capacitance Code ( $\mu$ F)                                                                                                  | Tolerance     | Rated Voltage (VDC)                                                               |                                                                                                      | Electrical Parameters | Size Code           | Packaging                  |
| Single-Ended Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = $\pm$ 20% | 6R3 = 6.3<br>010 = 10<br>016 = 16<br>025 = 25<br>035 = 35<br>050 = 50<br>063 = 63 | 100 = 100<br>160 = 160<br>200 = 200<br>250 = 250<br>350 = 350<br>400 = 400<br>450 = 450<br>500 = 500 | A = Standard          | See Dimension Table | See Ordering Options Table |

| Case Size | Voltage                   |                           |                           |                           |                          |                        |                           |                           |
|-----------|---------------------------|---------------------------|---------------------------|---------------------------|--------------------------|------------------------|---------------------------|---------------------------|
|           | 6.3                       | 10                        | 16                        | 25                        | 35                       | 50                     | 63                        | 100                       |
| 5 x 11    | 22 $\mu$ F – 220 $\mu$ F  | 4.7 $\mu$ F – 100 $\mu$ F | 4.7 $\mu$ F – 100 $\mu$ F | 4.7 $\mu$ F – 68 $\mu$ F  | 4.7 $\mu$ F – 47 $\mu$ F | 1 $\mu$ F – 33 $\mu$ F | 1 $\mu$ F – 22 $\mu$ F    | 1 $\mu$ F – 10 $\mu$ F    |
| 6.3 x 11  | 220 $\mu$ F – 470 $\mu$ F | 220 $\mu$ F – 470 $\mu$ F | 150 $\mu$ F – 330 $\mu$ F | 100 $\mu$ F               | 100 $\mu$ F              | 47 $\mu$ F             | 22 $\mu$ F – 47 $\mu$ F   | 10 $\mu$ F – 22 $\mu$ F   |
| 8 x 11    | 680 $\mu$ F – 1 mF        | 680 $\mu$ F               | 330 $\mu$ F – 470 $\mu$ F | 220 $\mu$ F – 330 $\mu$ F | 220 $\mu$ F              | 100 $\mu$ F            |                           | 22 $\mu$ F – 33 $\mu$ F   |
| 8 x 15    |                           |                           |                           | 470 $\mu$ F               |                          |                        |                           |                           |
| 10 x 12.5 | 1 mF                      | 1 mF                      | 680 $\mu$ F               | 470 $\mu$ F               | 330 $\mu$ F              | 220 $\mu$ F            | 100 $\mu$ F               | 47 $\mu$ F                |
| 10 x 15   |                           |                           | 1 mF                      | 680 $\mu$ F               | 470 $\mu$ F              | 330 $\mu$ F            | 220 $\mu$ F               | 68 $\mu$ F                |
| 10 x 20   | 2.2 mF – 3.3 mF           | 2.2 mF                    |                           | 1 mF                      | 680 $\mu$ F              | 470 $\mu$ F            | 220 $\mu$ F – 330 $\mu$ F | 100 $\mu$ F               |
| 13 x 16   |                           |                           |                           | 1 mF                      |                          |                        |                           |                           |
| 13 x 20   | 4.7 mF                    | 3.3 mF                    | 2.2 mF                    |                           | 1 mF                     |                        | 470 $\mu$ F               | 150 $\mu$ F               |
| 13 x 25   | 6.8 mF                    | 4.7 mF                    | 3.3 mF                    | 2.2 mF                    |                          | 1 mF                   | 680 $\mu$ F               | 220 $\mu$ F – 330 $\mu$ F |
| 16 x 25   | 10 mF                     | 6.8 mF                    | 4.7 mF                    | 3.3 mF                    | 2.2 mF                   |                        | 1 mF                      | 470 $\mu$ F               |
| 16 x 32   |                           |                           | 6.8 mF                    | 4.7 mF                    |                          |                        |                           |                           |
| 16 x 36   | 15 mF                     | 10 mF                     |                           |                           | 3.3 mF                   | 2.2 mF                 |                           | 680 $\mu$ F               |
| 18 x 32   |                           | 10 mF                     |                           |                           | 3.3 mF                   | 2.2 mF                 |                           |                           |
| 18 x 36   |                           | 15 mF                     | 10 mF                     | 6.8 mF                    | 4.7 mF                   | 3.3 mF                 | 2.2 mF                    |                           |
| 18 x 40   | 22 mF                     |                           |                           |                           |                          |                        |                           | 1 mF                      |
| 22 x 40   |                           | 22 mF                     | 15 mF – 0.022 F           | 10 mF – 0.015 F           | 6.8 mF                   | 4.7 mF                 | 3.3 mF                    |                           |

Lifetime based on applying rated voltage, temperature and ripple current.

# Aluminum Electrolytic Capacitors

## Radial/Single-Ended (cont.)

### ESK General Purpose 85°C, 6.3 – 500 VDC (cont.)

Capacitance Range: 1 to 22,000  $\mu\text{F}$  • Temperature Range: -40°C to +85°C and -25°C to +85°C

Lifetime: 2,000 Hours

[www.kemet.com/ESK](http://www.kemet.com/ESK)



| ESK                                | 226                                                                                                                          | M              | 6R3                                                                               |                                                                                                      | A                     | C3                  | AA                         |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------|---------------------|----------------------------|
| Series                             | Capacitance Code ( $\mu\text{F}$ )                                                                                           | Tolerance      | Rated Voltage (VDC)                                                               |                                                                                                      | Electrical Parameters | Size Code           | Packaging                  |
| Single-Ended Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = $\pm 20\%$ | 6R3 = 6.3<br>010 = 10<br>016 = 16<br>025 = 25<br>035 = 35<br>050 = 50<br>063 = 63 | 100 = 100<br>160 = 160<br>200 = 200<br>250 = 250<br>350 = 350<br>400 = 400<br>450 = 450<br>500 = 500 | A = Standard          | See Dimension Table | See Ordering Options Table |

| Case Size | Voltage                             |                                       |                                       |                                       |                                       |                                       |                                     |
|-----------|-------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------------------|
|           | 160                                 | 200                                   | 250                                   | 350                                   | 400                                   | 450                                   | 500                                 |
| 5 x 11    | 1 $\mu\text{F}$                     | 1 $\mu\text{F}$                       | 1 $\mu\text{F}$                       |                                       |                                       |                                       |                                     |
| 6.3 x 11  | 1 $\mu\text{F}$ – 4.7 $\mu\text{F}$ | 2.2 $\mu\text{F}$ – 4.7 $\mu\text{F}$ | 1 $\mu\text{F}$ – 2.2 $\mu\text{F}$   | 1 $\mu\text{F}$                       | 1 $\mu\text{F}$ – 2.2 $\mu\text{F}$   |                                       |                                     |
| 8 x 11    | 10 $\mu\text{F}$                    | 6.8 $\mu\text{F}$ – 10 $\mu\text{F}$  | 2.2 $\mu\text{F}$ – 6.8 $\mu\text{F}$ | 2.2 $\mu\text{F}$ – 3.3 $\mu\text{F}$ | 1 $\mu\text{F}$ – 4.7 $\mu\text{F}$   | 1 $\mu\text{F}$                       |                                     |
| 8 x 15    |                                     |                                       |                                       |                                       | 6.8 $\mu\text{F}$                     |                                       |                                     |
| 10 x 12.5 |                                     |                                       | 10 $\mu\text{F}$                      | 4.7 $\mu\text{F}$                     | 4.7 $\mu\text{F}$ – 6.8 $\mu\text{F}$ | 2.2 $\mu\text{F}$ – 4.7 $\mu\text{F}$ | 2.2 $\mu\text{F}$                   |
| 10 x 15   | 22 $\mu\text{F}$ – 33 $\mu\text{F}$ | 22 $\mu\text{F}$                      |                                       | 10 $\mu\text{F}$                      | 10 $\mu\text{F}$                      | 6.8 $\mu\text{F}$                     | 3.3 $\mu\text{F}$                   |
| 10 x 20   | 33 $\mu\text{F}$ – 47 $\mu\text{F}$ | 33 $\mu\text{F}$ – 47 $\mu\text{F}$   | 22 $\mu\text{F}$                      |                                       |                                       | 10 $\mu\text{F}$                      | 6.8 $\mu\text{F}$                   |
| 13 x 16   |                                     |                                       |                                       |                                       |                                       |                                       |                                     |
| 13 x 20   | 68 $\mu\text{F}$                    | 47 $\mu\text{F}$                      | 33 $\mu\text{F}$                      | 22 $\mu\text{F}$                      | 22 $\mu\text{F}$                      | 10 $\mu\text{F}$                      | 10 $\mu\text{F}$                    |
| 13 x 25   | 100 $\mu\text{F}$                   |                                       | 47 $\mu\text{F}$                      | 33 $\mu\text{F}$                      | 33 $\mu\text{F}$                      | 22 $\mu\text{F}$                      |                                     |
| 16 x 25   | 150 $\mu\text{F}$                   | 100 $\mu\text{F}$                     | 100 $\mu\text{F}$                     | 47 $\mu\text{F}$                      | 47 $\mu\text{F}$                      | 33 $\mu\text{F}$                      | 22 $\mu\text{F}$ – 33 $\mu\text{F}$ |
| 16 x 32   | 220 $\mu\text{F}$                   | 220 $\mu\text{F}$                     | 150 $\mu\text{F}$                     |                                       | 68 $\mu\text{F}$                      | 47 $\mu\text{F}$                      |                                     |
| 16 x 36   |                                     |                                       |                                       | 100 $\mu\text{F}$                     |                                       |                                       |                                     |
| 16 x 40   |                                     | 330 $\mu\text{F}$                     |                                       |                                       |                                       |                                       |                                     |
| 18 x 25   |                                     | 220 $\mu\text{F}$                     |                                       |                                       | 68 $\mu\text{F}$                      | 47 $\mu\text{F}$ – 68 $\mu\text{F}$   |                                     |
| 18 x 32   |                                     | 330 $\mu\text{F}$                     |                                       | 100 $\mu\text{F}$                     | 100 $\mu\text{F}$                     |                                       | 47 $\mu\text{F}$                    |
| 18 x 36   | 330 $\mu\text{F}$                   |                                       |                                       |                                       |                                       |                                       | 68 $\mu\text{F}$                    |
| 18 x 40   | 470 $\mu\text{F}$                   | 470 $\mu\text{F}$                     | 220 $\mu\text{F}$                     |                                       | 150 $\mu\text{F}$                     | 100 $\mu\text{F}$                     |                                     |
| 22 x 35   |                                     |                                       |                                       |                                       |                                       | 150 $\mu\text{F}$                     |                                     |

Lifetime based on applying rated voltage, temperature and ripple current.

## Radial/Single-Ended (cont.)

### ESH High Reliability, High CV 105°C, 6.3 – 500 VDC

Capacitance Range: 1 to 22,000 µF • Temperature Range: -40°C to +105°C and -25°C to +105°C

Lifetime: 2,000 Hours

[www.kemet.com/ESH](http://www.kemet.com/ESH)



| ESH                                | 107                                                                                                                          | M         | 6R3                                                                                            |                                                                                                      | A                     | C3                  | AA                         |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------|---------------------|----------------------------|
| Series                             | Capacitance Code (pF)                                                                                                        | Tolerance | Rated Voltage (VDC)                                                                            |                                                                                                      | Electrical Parameters | Size Code           | Packaging                  |
| Single-Ended Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = ±20%  | 6R3 = 6.3<br>010 = 10<br>016 = 16<br>025 = 25<br>035 = 35<br>050 = 50<br>063 = 63<br>100 = 100 | 160 = 160<br>200 = 200<br>250 = 250<br>350 = 350<br>400 = 400<br>420 = 420<br>450 = 450<br>500 = 500 | A = Standard          | See Dimension Table | See Ordering Options Table |

| Case Size | Voltage         |                 |                 |                 |                 |                 |                 |               |
|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|
|           | 6.3             | 10              | 16              | 25              | 35              | 50              | 63              | 100           |
| 5 x 11    | 100 µF – 150 µF | 47 µF – 150 µF  | 33 µF – 100 µF  | 22 µF – 47 µF   | 10 µF – 47 µF   | 1 µF – 33 µF    | 1 µF – 15 µF    | 1 µF – 6.8 µF |
| 6.3 x 11  | 220 µF – 470 µF | 220 µF – 470 µF | 150 µF – 220 µF | 68 µF – 100 µF  | 68 µF – 100 µF  | 47 µF           | 22 µF – 33 µF   | 10 µF – 15 µF |
| 8 x 11    | 680 µF          | 330 µF – 680 µF | 330 µF – 470 µF | 150 µF – 330 µF | 150 µF          | 68 µF – 100 µF  | 47 µF           | 22 µF – 33 µF |
| 8 x 15    | 1 mF            | 1 mF            | 680 µF          | 470 µF          |                 |                 |                 |               |
| 10 x 12.5 | 1 mF            | 680 µF – 1 mF   | 680 µF          | 330 µF – 470 µF | 220 µF – 330 µF | 150 µF – 220 µF | 68 µF – 100 µF  | 47 µF         |
| 10 x 15   | 1.5 mF          |                 | 1 mF            | 680 µF          | 470 µF          | 220 µF          | 150 µF          | 68 µF         |
| 10 x 20   | 2.2 mF          | 1.5 mF – 2.2 mF | 1.5 mF          | 1 mF            | 680 µF          | 330 µF – 470 µF | 220 µF          | 100 µF        |
| 13 x 20   | 3.3 mF – 4.7 mF | 3.3 mF          | 2.2 mF          | 1.5 mF          | 1 mF            | 470 µF – 680 µF | 330 µF – 470 µF | 150 µF        |
| 13 x 25   |                 | 4.7 mF          | 3.3 mF          | 2.2 mF          | 1.5 mF          | 1 mF            |                 | 220 µF        |
| 16 x 25   | 6.8 mF          | 6.8 mF          | 4.7 mF          | 3.3 mF          | 2.2 mF          | 1.5 mF          | 680 µF          | 330 µF        |
| 16 x 32   | 10 mF           |                 | 6.8 mF          | 4.7 mF          |                 |                 | 1 mF            | 470 µF        |
| 16 x 36   | 15 mF           | 10 mF           |                 |                 | 3.3 mF          | 2.2 mF          | 1.5 mF          | 680 µF        |
| 18 x 36   |                 | 15 mF           | 10 mF           | 6.8 mF          | 4.7 mF          | 3.3 mF          | 2.2 mF          |               |
| 18 x 40   | 22 mF           |                 |                 |                 |                 |                 |                 |               |

Lifetime based on applying rated voltage, temperature and ripple current.

# Aluminum Electrolytic Capacitors

## Radial/Single-Ended (cont.)

### ESH High Reliability, High CV 105°C, 6.3 – 500 VDC (cont.)

Capacitance Range: 1 to 22,000  $\mu\text{F}$  • Temperature Range: -40°C to +105°C and -25°C to +105°C

Lifetime: 2,000 Hours

[www.kemet.com/ESH](http://www.kemet.com/ESH)



| ESH                                | 107                                                                                                                          | M              | 6R3                                                                                            |                                                                                                      | A                     | C3                  | AA                         |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------|---------------------|----------------------------|
| Series                             | Capacitance Code ( $\mu\text{F}$ )                                                                                           | Tolerance      | Rated Voltage (VDC)                                                                            |                                                                                                      | Electrical Parameters | Size Code           | Packaging                  |
| Single-Ended Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = $\pm 20\%$ | 6R3 = 6.3<br>010 = 10<br>016 = 16<br>025 = 25<br>035 = 35<br>050 = 50<br>063 = 63<br>100 = 100 | 160 = 160<br>200 = 200<br>250 = 250<br>350 = 350<br>400 = 400<br>420 = 420<br>450 = 450<br>500 = 500 | A = Standard          | See Dimension Table | See Ordering Options Table |

| Case Size | Voltage                               |                                       |                                       |                                       |                                       |                                       |                                       |                                       |
|-----------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|           | 160                                   | 200                                   | 250                                   | 350                                   | 400                                   | 420                                   | 450                                   | 500                                   |
| 5 x 11    | 1 $\mu\text{F}$                       |                                       |                                       |                                       |                                       |                                       |                                       |                                       |
| 6.3 x 11  | 2.2 $\mu\text{F}$ – 4.7 $\mu\text{F}$ | 1 $\mu\text{F}$ – 3.3 $\mu\text{F}$   | 1 $\mu\text{F}$ – 2.2 $\mu\text{F}$   | 1 $\mu\text{F}$                       | 1 $\mu\text{F}$                       | 1 $\mu\text{F}$                       | 1 $\mu\text{F}$                       |                                       |
| 8 x 11    | 6.8 $\mu\text{F}$ – 10 $\mu\text{F}$  | 4.7 $\mu\text{F}$ – 6.8 $\mu\text{F}$ | 3.3 $\mu\text{F}$ – 6.8 $\mu\text{F}$ | 2.2 $\mu\text{F}$ – 4.7 $\mu\text{F}$ | 2.2 $\mu\text{F}$ – 4.7 $\mu\text{F}$ | 2.2 $\mu\text{F}$ – 3.3 $\mu\text{F}$ | 1 $\mu\text{F}$ – 2.2 $\mu\text{F}$   | 2.2 $\mu\text{F}$                     |
| 8 x 15    |                                       |                                       |                                       |                                       | 6.8 $\mu\text{F}$                     |                                       | 3.3 $\mu\text{F}$                     |                                       |
| 8 x 16    |                                       |                                       |                                       |                                       |                                       |                                       |                                       | 3.3 $\mu\text{F}$ – 4.7 $\mu\text{F}$ |
| 10 x 12.5 | 15 $\mu\text{F}$                      | 10 $\mu\text{F}$                      | 10 $\mu\text{F}$                      |                                       | 4.7 $\mu\text{F}$ – 6.8 $\mu\text{F}$ | 4.7 $\mu\text{F}$                     | 2.2 $\mu\text{F}$ – 4.7 $\mu\text{F}$ | 4.7 $\mu\text{F}$                     |
| 10 x 15   | 22 $\mu\text{F}$                      | 15 $\mu\text{F}$                      | 15 $\mu\text{F}$                      | 10 $\mu\text{F}$                      | 4.7 $\mu\text{F}$ – 10 $\mu\text{F}$  | 6.8 $\mu\text{F}$                     | 6.8 $\mu\text{F}$                     |                                       |
| 10 x 16   |                                       |                                       |                                       |                                       |                                       |                                       |                                       | 6.8 $\mu\text{F}$                     |
| 10 x 20   | 33 $\mu\text{F}$ – 47 $\mu\text{F}$   | 22 $\mu\text{F}$                      | 22 $\mu\text{F}$                      |                                       | 15 $\mu\text{F}$                      | 10 $\mu\text{F}$                      | 10 $\mu\text{F}$                      | 8.2 $\mu\text{F}$ – 10 $\mu\text{F}$  |
| 13 x 20   | 68 $\mu\text{F}$                      | 33 $\mu\text{F}$ – 47 $\mu\text{F}$   | 33 $\mu\text{F}$                      | 22 $\mu\text{F}$                      | 22 $\mu\text{F}$                      | 15 $\mu\text{F}$                      | 15 $\mu\text{F}$                      | 10 $\mu\text{F}$                      |
| 13 x 25   | 100 $\mu\text{F}$                     | 68 $\mu\text{F}$                      | 47 $\mu\text{F}$ – 68 $\mu\text{F}$   | 33 $\mu\text{F}$                      | 33 $\mu\text{F}$                      | 22 $\mu\text{F}$                      | 22 $\mu\text{F}$                      | 15 $\mu\text{F}$ – 22 $\mu\text{F}$   |
| 16 x 25   | 150 $\mu\text{F}$                     | 100 $\mu\text{F}$                     | 100 $\mu\text{F}$                     | 47 $\mu\text{F}$                      | 47 $\mu\text{F}$                      | 33 $\mu\text{F}$ – 47 $\mu\text{F}$   | 33 $\mu\text{F}$ – 47 $\mu\text{F}$   | 22 $\mu\text{F}$                      |
| 16 x 32   | 220 $\mu\text{F}$                     | 150 $\mu\text{F}$                     | 150 $\mu\text{F}$                     |                                       | 68 $\mu\text{F}$                      | 68 $\mu\text{F}$                      |                                       | 47 $\mu\text{F}$                      |
| 16 x 36   |                                       | 220 $\mu\text{F}$                     |                                       |                                       |                                       |                                       |                                       |                                       |
| 18 x 25   |                                       |                                       |                                       |                                       | 68 $\mu\text{F}$                      | 68 $\mu\text{F}$                      |                                       | 33 $\mu\text{F}$                      |
| 18 x 30   |                                       |                                       |                                       |                                       |                                       |                                       |                                       | 47 $\mu\text{F}$                      |
| 18 x 32   |                                       | 220 $\mu\text{F}$                     |                                       | 100 $\mu\text{F}$                     | 100 $\mu\text{F}$ – 120 $\mu\text{F}$ |                                       | 68 $\mu\text{F}$                      | 68 $\mu\text{F}$                      |
| 18 x 36   | 330 $\mu\text{F}$                     | 330 $\mu\text{F}$                     | 220 $\mu\text{F}$                     |                                       | 120 $\mu\text{F}$                     | 100 $\mu\text{F}$                     | 100 $\mu\text{F}$                     | 68 $\mu\text{F}$                      |
| 18 x 40   | 470 $\mu\text{F}$                     |                                       |                                       |                                       | 150 $\mu\text{F}$                     | 120 $\mu\text{F}$                     | 120 $\mu\text{F}$                     | 82 $\mu\text{F}$                      |
| 18 x 45   |                                       |                                       |                                       |                                       |                                       | 150 $\mu\text{F}$                     | 150 $\mu\text{F}$                     |                                       |

Lifetime based on applying rated voltage, temperature and ripple current.

## Radial/Single-Ended (cont.)

**ESG Long Life and High Reliability 105°C, 160 – 500 VDC**

**Capacitance Range:** 3.3 to 330 µF • **Temperature Range:** -40°C to +105°C and -25°C to +105°C

**Lifetime:** 5,000 Hours

[www.kemet.com/ESG](http://www.kemet.com/ESG)



| ESG                                | 226                                                                                                                          | M         | 160                                              |                                     | A                     | H4                  | AA                         |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------------|-------------------------------------|-----------------------|---------------------|----------------------------|
| Series                             | Capacitance Code (pF)                                                                                                        | Tolerance | Rated Voltage (VDC)                              |                                     | Electrical Parameters | Size Code           | Packaging                  |
| Single-Ended Aluminum Electrolytic | First two digits represent significant figures for capacitance values. Last digit specifies the number of zeros to be added. | M = ±20%  | 160 = 160<br>200 = 200<br>250 = 250<br>350 = 350 | 400 = 400<br>450 = 450<br>500 = 500 | A = Standard          | See Dimension Table | See Ordering Options Table |

| Case Size | Voltage         |               |               |        |                 |                 |                |
|-----------|-----------------|---------------|---------------|--------|-----------------|-----------------|----------------|
|           | 160             | 200           | 250           | 350    | 400             | 450             | 500            |
| 10 x 16   |                 | 10 µF – 15 µF | 10 µF         |        | 4.7 µF – 10 µF  |                 |                |
| 10 x 20   | 22 µF – 33 µF   | 22 µF – 33 µF | 10 µF         | 10 µF  | 10 µF           | 3.3 µF – 6.8 µF | 4.7 µF         |
| 10 x 25   |                 |               | 10 µF         |        |                 |                 |                |
| 13 x 20   | 47 µF           | 33 µF – 47 µF | 22 µF – 33 µF | 22 µF  | 22 µF           | 4.7 µF – 22 µF  | 6.8 µF         |
| 13 x 25   | 68 µF           | 68 µF         | 47 µF         | 33 µF  | 22 µF           | 10 µF           | 10 µF          |
| 16 x 20   | 68 µF           | 68 µF         | 47 µF         | 33 µF  | 22 µF           |                 |                |
| 16 x 25   | 100 µF          | 100 µF        | 68 µF         | 47 µF  | 33 µF – 47 µF   | 22 µF – 33 µF   | 22 µF          |
| 16 x 26   |                 |               |               |        |                 | 47 µF           |                |
| 16 x 30   |                 |               |               |        | 68 µF           |                 |                |
| 16 x 32   | 150 µF – 220 µF |               | 100 µF        | 68 µF  | 47 µF – 68 µF   | 33 µF           | 33 µF          |
| 16 x 36   |                 |               |               |        |                 |                 | 47 µF          |
| 18 x 20   | 100 µF          | 100 µF        | 68 µF         | 47 µF  | 33 µF           | 22 µF           | 22 µF          |
| 18 x 25   | 150 µF – 220 µF | 150 µF        | 100 µF        | 68 µF  | 47 µF           | 33 µF – 68 µF   | 33 µF          |
| 18 x 32   | 330 µF          | 220 µF        | 150 µF        | 100 µF | 100 µF          | 47 µF – 68 µF   | 47 µF – 68 µF  |
| 18 x 36   |                 |               |               |        | 68 µF           |                 | 68 µF          |
| 18 x 40   |                 |               | 220 µF        |        | 100 µF – 150 µF | 68 µF           | 82 µF          |
| 22 x 35   |                 |               |               |        |                 |                 | 82 µF – 100 µF |
| 22 x 40   |                 |               |               |        | 150 µF          | 100 µF          | 120 µF         |
| 22 x 45   |                 |               |               |        |                 |                 | 150 µF         |

*Lifetime based on applying rated voltage, temperature and ripple current.*

# **Ceramic Capacitors**



### Commercial Grade

#### High Voltage C0G Dielectric, 500 – 3,000 VDC

Capacitance Range: 1 pF to 15  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/HV-C0G](http://www.kemet.com/HV-C0G)



| C       | 1210                                                                                         | C                     | 332                                         | J                                                                                                                                                 | C                                                                                   | G          | A                    | C                                                | TU                                                  |
|---------|----------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|----------------------|--------------------------------------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W")                                                                          | Specification/ Series | Capacitance Code (pF)                       | Capacitance Tolerance <sup>1</sup>                                                                                                                | Rated Voltage (VDC)                                                                 | Dielectric | Failure Rate/ Design | Termination Finish <sup>2</sup>                  | Packaging/ Grade (C-Spec)                           |
|         | 0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225<br>2824<br>3040<br>3640<br>4540 | C = Standard          | Two significant digits and number of zeros. | B = $\pm 0.10$ pF<br>C = $\pm 0.25$ pF<br>D = $\pm 0.5$ pF<br>F = $\pm 1\%$<br>G = $\pm 2\%$<br>J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | C = 500<br>B = 630<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | G = C0G    | A = N/A              | C = 100% Matte Sn<br>L = SnPb<br>(5% Pb minimum) | See "Packaging C-Spec Ordering Options Table" below |

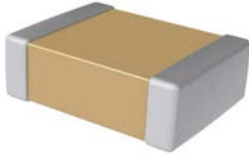
| Case Size | Voltage                |                        |                        |                        |                        |                |                |
|-----------|------------------------|------------------------|------------------------|------------------------|------------------------|----------------|----------------|
|           | 500                    | 630                    | 1,000                  | 1,500                  | 2,000                  | 2,500          | 3,000          |
| 0805      | 1 pF – 820 pF          | 1 pF – 560 pF          | 1 pF – 270 pF          |                        |                        |                |                |
| 1206      | 10 pF – 4.7 nF         | 10 pF – 4.7 nF         | 10 pF – 1 nF           | 10 pF – 560 pF         | 10 pF – 270 pF         |                |                |
| 1210      | 10 pF – 8.2 nF         | 10 pF – 6.8 nF         | 10 pF – 2.7 nF         | 10 pF – 1.2 nF         | 10 pF – 680 pF         |                |                |
| 1808      | 1 pF – 6.8 nF          | 1 pF – 4.7 nF          | 1 pF – 2.7 nF          | 1 pF – 1.5 nF          | 1 pF – 680 pF          | 1 pF – 390 pF  | 1 pF – 180 pF  |
| 1812      | 10 pF – 0.015 $\mu$ F  | 10 pF – 0.01 $\mu$ F   | 10 pF – 5.6 nF         | 10 pF – 2.7 nF         | 10 pF – 1.5 nF         | 10 pF – 680 pF | 10 pF – 390 pF |
| 1825      | 10 pF – 0.033 $\mu$ F  | 10 pF – 0.018 $\mu$ F  | 10 pF – 0.01 $\mu$ F   | 10 pF – 5.6 nF         | 10 pF – 3 nF           | 10 pF – 1.6 nF | 10 pF – 680 pF |
| 2220      | 10 pF – 0.033 $\mu$ F  | 10 pF – 0.027 $\mu$ F  | 10 pF – 0.012 $\mu$ F  | 10 pF – 6.8 nF         | 10 pF – 3.9 nF         | 10 pF – 1.8 nF | 10 pF – 1 nF   |
| 2225      | 10 pF – 0.039 $\mu$ F  | 10 pF – 0.027 $\mu$ F  | 10 pF – 0.015 $\mu$ F  | 10 pF – 6.8 nF         | 10 pF – 3.9 nF         | 10 pF – 2.2 nF | 10 pF – 1 nF   |
| 2824      | 2.2 nF – 0.056 $\mu$ F | 2.2 nF – 0.039 $\mu$ F | 2.2 nF – 0.022 $\mu$ F | 2.2 nF – 8.2 nF        | 2.2 nF – 5.6 nF        |                |                |
| 3040      | 3.3 nF – 0.1 $\mu$ F   | 3.3 nF – 0.068 $\mu$ F | 3.3 nF – 0.039 $\mu$ F | 3.3 nF – 0.015 $\mu$ F | 3.3 nF – 0.01 $\mu$ F  |                |                |
| 3640      | 3.9 nF – 0.12 $\mu$ F  | 3.9 nF – 0.068 $\mu$ F | 3.9 nF – 0.047 $\mu$ F | 3.9 nF – 0.018 $\mu$ F | 3.9 nF – 0.015 $\mu$ F |                |                |
| 4540      | 4.7 nF – 0.15 $\mu$ F  | 4.7 nF – 0.1 $\mu$ F   | 4.7 nF – 0.068 $\mu$ F | 4.7 nF – 0.027 $\mu$ F | 4.7 nF – 0.018 $\mu$ F |                |                |

## Commercial Grade (cont.)

### High Voltage with Flexible Termination System (HV FT-CAP), C0G Dielectric, 500 – 3,000 VDC

Capacitance Range: 1 pF to 0.039  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/FTCAP-HV-C0G](http://www.kemet.com/FTCAP-HV-C0G)



| C       | 2225                                                         | X                       | 393                                         | J                                                                                                                                                 | C                                                                                   | G          | A                    | C                                             | TU                                                  |
|---------|--------------------------------------------------------------|-------------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|----------------------|-----------------------------------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W")                                          | Specification/ Series   | Capacitance Code (pF)                       | Capacitance Tolerance <sup>1</sup>                                                                                                                | Rated Voltage (VDC)                                                                 | Dielectric | Failure Rate/ Design | Termination Finish <sup>2</sup>               | Packaging/Grade (C-Spec)                            |
|         | 0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225 | X= Flexible Termination | Two significant digits and number of zeros. | B = $\pm 0.10$ pF<br>C = $\pm 0.25$ pF<br>D = $\pm 0.5$ pF<br>F = $\pm 1\%$<br>G = $\pm 2\%$<br>J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | C = 500<br>B = 630<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | G = C0G    | A = N/A              | C = 100% Matte Sn<br>L = SnPb (5% Pb minimum) | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage                |                        |                       |                |                |                 |                 |
|-----------|------------------------|------------------------|-----------------------|----------------|----------------|-----------------|-----------------|
|           | 500                    | 630                    | 1,000                 | 1,500          | 2,000          | 2,500           | 3,000           |
| 0805      | 1 pF – 820 pF          | 1 pF – 560 pF          | 1 pF – 270 pF         |                |                |                 |                 |
| 1206      | 10 pF – 4.7 nF         | 10 pF – 4.7 nF         | 10 pF – 1 nF          | 10 pF – 560 pF | 10 pF – 270 pF |                 |                 |
| 1210      | 10 pF – 8.2 nF         | 10 pF – 6.8 nF         | 10 pF – 2.7 nF        | 10 pF – 1.2 nF | 10 pF – 680 pF |                 |                 |
| 1808      | 1 pF – 6.8 nF          | 1 pF – 4.7 nF          | 1 pF – 2.7 nF         | 1 pF – 1.5 nF  | 1 pF – 680 pF  | 1 pF – 390 pF   | 1 pF – 180 pF   |
| 1812      | 10 pF – 0.015 $\mu$ F  | 10 pF – 0.01 $\mu$ F   | 10 pF – 5.6 nF        | 10 pF – 2.7 nF | 10 pF – 1.5 nF | 10 pF – 680 pF  | 10 pF – 390 pF  |
| 1825      | 9.1 nF – 0.033 $\mu$ F | 5.1 nF – 0.018 $\mu$ F | 5.1 nF – 0.01 $\mu$ F | 2 nF – 5.6 nF  | 1.3 nF – 3 nF  | 1.1 nF – 1.6 nF | 430 pF – 680 pF |
| 2220      | 10 pF – 0.033 $\mu$ F  | 10 pF – 0.027 $\mu$ F  | 10 pF – 0.012 $\mu$ F | 10 pF – 6.8 nF | 10 pF – 3.9 nF | 10 pF – 1.8 nF  | 10 pF – 1 nF    |
| 2225      | 10 pF – 0.039 $\mu$ F  | 10 pF – 0.027 $\mu$ F  | 10 pF – 0.015 $\mu$ F | 10 pF – 6.8 nF | 10 pF – 3.9 nF | 10 pF – 2.2 nF  | 10 pF – 1 nF    |

### High Voltage X7R Dielectric, 500 – 3,000 VDC

Capacitance Range: 10 pF to 0.56  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/HV-X7R](http://www.kemet.com/HV-X7R)



| C       | 1210                                                                 | C                     | 154                                         | K                                                 | C                                                                                   | R          | A                    | C                               | AUTO                                                |
|---------|----------------------------------------------------------------------|-----------------------|---------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------|------------|----------------------|---------------------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W")                                                  | Specification/ Series | Capacitance Code (pF)                       | Capacitance Tolerance                             | Rated Voltage (VDC)                                                                 | Dielectric | Failure Rate/ Design | Termination Finish <sup>1</sup> | Packaging/Grade (C-Spec)                            |
|         | 0603<br>0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225 | C = Standard          | Two significant digits and number of zeros. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | C = 500<br>B = 630<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | R = X7R    | A = N/A              | C = 100% Matte Sn               | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage               |                       |                       |                        |                        |                        |                        |
|-----------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
|           | 500                   | 630                   | 1,000                 | 1,500                  | 2,000                  | 2,500                  | 3,000                  |
| 0603      | 1 nF – 3.9 nF         | 1 nF – 1.5 nF         | 1 nF                  |                        |                        |                        |                        |
| 0805      | 10 pF – 0.022 $\mu$ F | 10 pF – 0.012 $\mu$ F | 10 pF – 5.6 nF        |                        |                        |                        |                        |
| 1206      | 10 pF – 0.068 $\mu$ F | 10 pF – 0.033 $\mu$ F | 10 pF – 0.022 $\mu$ F | 10 pF – 0.01 $\mu$ F   | 10 pF – 2.2 nF         |                        |                        |
| 1210      | 10 pF – 0.15 $\mu$ F  | 10 pF – 0.1 $\mu$ F   | 10 pF – 0.068 $\mu$ F | 10 pF – 0.039 $\mu$ F  | 10 pF – 6.8 nF         |                        |                        |
| 1808      | 10 pF – 0.15 $\mu$ F  | 10 pF – 0.1 $\mu$ F   | 10 pF – 0.068 $\mu$ F | 10 pF – 0.015 $\mu$ F  | 10 pF – 4.7 nF         | 10 pF – 2.2 nF         | 10 pF – 1 nF           |
| 1812      | 10 pF – 0.33 $\mu$ F  | 10 pF – 0.15 $\mu$ F  | 10 pF – 0.1 $\mu$ F   | 10 pF – 0.033 $\mu$ F  | 10 pF – 0.01 $\mu$ F   | 10 pF – 4.7 nF         | 10 pF – 1.2 nF         |
| 1825      | 100 pF – 0.39 $\mu$ F | 100 pF – 0.27 $\mu$ F | 100 pF – 0.1 $\mu$ F  | 100 pF – 0.068 $\mu$ F | 100 pF – 0.015 $\mu$ F | 100 pF – 0.01 $\mu$ F  | 100 pF – 2.2 nF        |
| 2220      | 100 pF – 0.47 $\mu$ F | 100 pF – 0.33 $\mu$ F | 100 pF – 0.12 $\mu$ F | 100 pF – 0.082 $\mu$ F | 100 pF – 0.022 $\mu$ F | 100 pF – 0.015 $\mu$ F | 100 pF – 0.015 $\mu$ F |
| 2225      | 100 pF – 0.56 $\mu$ F | 100 pF – 0.47 $\mu$ F | 100 pF – 0.15 $\mu$ F | 100 pF – 0.1 $\mu$ F   | 100 pF – 0.027 $\mu$ F | 100 pF – 0.015 $\mu$ F | 100 pF – 0.015 $\mu$ F |

### Commercial Grade (cont.)

#### High Voltage with Flexible Termination System (HV FT-CAP) X7R Dielectric, 500 – 3,000 VDC

Capacitance Range: 10 pF to 0.56  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/FTCAP-HV-X7R](http://www.kemet.com/FTCAP-HV-X7R)



| C       | 1210                                                                 | X                        | 154                                         | K                                              | C                                                                                   | R          | A                    | C                   | AUTO                                                |
|---------|----------------------------------------------------------------------|--------------------------|---------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------|------------|----------------------|---------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W")                                                  | Specification/ Series    | Capacitance Code (pF)                       | Capacitance Tolerance                          | Rated Voltage (VDC)                                                                 | Dielectric | Failure Rate/ Design | Termination Finish¹ | Packaging/Grade (C-Spec)                            |
|         | 0603<br>0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225 | X = Flexible Termination | Two significant digits and number of zeros. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | C = 500<br>B = 630<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | R = X7R    | A = N/A              | C = 100% Matte Sn   | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage               |                       |                       |                        |                        |                        |                        |
|-----------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
|           | 500                   | 630                   | 1,000                 | 1,500                  | 2,000                  | 2,500                  | 3,000                  |
| 0603      | 1 nF – 3.9 nF         | 1 nF – 1.5 nF         | 1 nF                  |                        |                        |                        |                        |
| 0805      | 10 pF – 0.022 $\mu$ F | 10 pF – 0.012 $\mu$ F | 10 pF – 5.6 nF        |                        |                        |                        |                        |
| 1206      | 10 pF – 0.068 $\mu$ F | 10 pF – 0.033 $\mu$ F | 10 pF – 0.022 $\mu$ F | 10 pF – 0.01 $\mu$ F   | 10 pF – 2.2 nF         |                        |                        |
| 1210      | 10 pF – 0.15 $\mu$ F  | 10 pF – 0.1 $\mu$ F   | 10 pF – 0.068 $\mu$ F | 10 pF – 0.039 $\mu$ F  | 10 pF – 6.8 nF         |                        |                        |
| 1808      | 10 pF – 0.15 $\mu$ F  | 10 pF – 0.1 $\mu$ F   | 10 pF – 0.068 $\mu$ F | 10 pF – 0.015 $\mu$ F  | 10 pF – 4.7 nF         | 10 pF – 2.2 nF         | 10 pF – 1 nF           |
| 1812      | 51 pF – 0.33 $\mu$ F  | 51 pF – 0.15 $\mu$ F  | 51 pF – 0.1 $\mu$ F   | 51 pF – 0.033 $\mu$ F  | 51 pF – 0.01 $\mu$ F   | 51 pF – 4.7 nF         | 51 pF – 1.2 nF         |
| 1825      | 470 pF – 0.39 $\mu$ F | 470 pF – 0.27 $\mu$ F | 470 pF – 0.1 $\mu$ F  | 470 pF – 0.068 $\mu$ F | 470 pF – 0.015 $\mu$ F | 470 pF – 0.01 $\mu$ F  | 470 pF – 3.3 nF        |
| 2220      | 470 pF – 0.47 $\mu$ F | 470 pF – 0.33 $\mu$ F | 470 pF – 0.12 $\mu$ F | 470 pF – 0.082 $\mu$ F | 470 pF – 0.022 $\mu$ F | 470 pF – 0.015 $\mu$ F | 470 pF – 0.015 $\mu$ F |
| 2225      | 680 pF – 0.56 $\mu$ F | 680 pF – 0.47 $\mu$ F | 680 pF – 0.15 $\mu$ F | 680 pF – 0.1 $\mu$ F   | 680 pF – 0.027 $\mu$ F | 680 pF – 0.015 $\mu$ F | 680 pF – 0.015 $\mu$ F |

## Commercial Grade (cont.)

### ArcShield™ Technology, High Voltage, X7R Dielectric, 500 – 1,000 VDC

Capacitance Range: 1,000 pF to 0.56  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/ArcShield-X7R](http://www.kemet.com/ArcShield-X7R)



| C       | 0603                                                                 | W                                                        | 392                                         | K                                              | C                               | R          | A                    | C                                             | TU                                                  |
|---------|----------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------|------------------------------------------------|---------------------------------|------------|----------------------|-----------------------------------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W")                                                  | Specification/ Series                                    | Capacitance Code (pF)                       | Capacitance Tolerance                          | Rated Voltage (VDC)             | Dielectric | Failure Rate/ Design | Termination Finish <sup>1</sup>               | Packaging/ Grade (C-Spec) <sup>2</sup>              |
|         | 0603<br>0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225 | V = ArcShield<br>W = ArcShield with Flexible Termination | Two significant digits and number of zeros. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | C = 500<br>B = 630<br>D = 1,000 | R = X7R    | A = N/A              | C = 100% Matte Sn<br>L = SnPb (5% PB minimum) | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage                       |                               |                               |
|-----------|-------------------------------|-------------------------------|-------------------------------|
|           | 500                           | 630                           | 1,000                         |
| 0603      | 1 nF – 3.9 nF                 | 1 nF – 1.5 nF                 | 1 nF                          |
| 0805      | 2.2 nF – 0.022 $\mu$ F        | 2.2 nF – 0.012 $\mu$ F        | 2.2 nF – 4.7 nF               |
| 1206      | 0.012 $\mu$ F – 0.068 $\mu$ F | 0.012 $\mu$ F – 0.033 $\mu$ F | 0.012 $\mu$ F – 0.022 $\mu$ F |
| 1210      | 0.022 $\mu$ F – 0.15 $\mu$ F  | 0.022 $\mu$ F – 0.1 $\mu$ F   | 0.022 $\mu$ F – 0.068 $\mu$ F |
| 1808      | 0.018 $\mu$ F – 0.15 $\mu$ F  | 0.018 $\mu$ F – 0.1 $\mu$ F   | 0.018 $\mu$ F – 0.068 $\mu$ F |
| 1812      | 0.027 $\mu$ F – 0.33 $\mu$ F  | 0.027 $\mu$ F – 0.15 $\mu$ F  | 0.027 $\mu$ F – 0.1 $\mu$ F   |
| 1825      | 0.12 $\mu$ F – 0.39 $\mu$ F   | 0.12 $\mu$ F – 0.27 $\mu$ F   |                               |
| 2220      | 0.15 $\mu$ F – 0.47 $\mu$ F   | 0.15 $\mu$ F – 0.33 $\mu$ F   |                               |
| 2225      | 0.18 $\mu$ F – 0.56 $\mu$ F   | 0.18 $\mu$ F – 0.47 $\mu$ F   |                               |

### Commercial Grade (cont.)

#### KPS High Voltage, X7R Dielectric, 500 and 630 VDC

Capacitance Range: 0.047  $\mu$ F to 1  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/KPS-HV-X7R](http://www.kemet.com/KPS-HV-X7R)



| C       | 2220                | C                     | 105                                         | M                                  | C                   | R          | 2                                                      | C                             | 7186                                                |
|---------|---------------------|-----------------------|---------------------------------------------|------------------------------------|---------------------|------------|--------------------------------------------------------|-------------------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W") | Specification/ Series | Capacitance Code (pF)                       | Capacitance Tolerance <sup>1</sup> | Rated Voltage (VDC) | Dielectric | Failure Rate/ Design                                   | Leadframe Finish <sup>2</sup> | Packaging/ Grade (C-Spec)                           |
|         | 2220                | C = Standard          | Two significant digits and number of zeros. | K = $\pm 10\%$<br>M = $\pm 20\%$   | C = 500<br>B = 630  | R = X7R    | 1 = KPS Single Chip Stack<br>2 = KPS Double Chip Stack | C = 100% Matte Sn             | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage                      |                              |
|-----------|------------------------------|------------------------------|
|           | 500                          | 630                          |
| 2220-1    | 0.047 $\mu$ F – 0.47 $\mu$ F | 0.047 $\mu$ F – 0.22 $\mu$ F |
| 2220-2    | 0.1 $\mu$ F – 1 $\mu$ F      | 0.1 $\mu$ F – 0.47 $\mu$ F   |

#### KPS "L" High Voltage, SnPb Termination, X7R Dielectric, 500 – 630 VDC

Capacitance Range: 0.047  $\mu$ F to 1  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/KPS-L-HV](http://www.kemet.com/KPS-L-HV)



| C       | 2220                | C                     | 105                                         | M                                  | C                   | R          | 2                                                      | L                             | 7186                                                |
|---------|---------------------|-----------------------|---------------------------------------------|------------------------------------|---------------------|------------|--------------------------------------------------------|-------------------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W") | Specification/ Series | Capacitance Code (pF)                       | Capacitance Tolerance <sup>1</sup> | Rated Voltage (VDC) | Dielectric | Failure Rate/ Design                                   | Leadframe Finish <sup>2</sup> | Packaging/ Grade (C-Spec) <sup>3</sup>              |
|         | 2220                | C = Standard          | Two Significant Digits and Number of Zeroes | K = $\pm 10\%$<br>M = $\pm 20\%$   | C = 500<br>B = 630  | R = X7R    | 1 = KPS Single Chip Stack<br>2 = KPS Double Chip Stack | L = SnPb (5% Pb min.)         | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage                      |                              |
|-----------|------------------------------|------------------------------|
|           | 500                          | 630                          |
| 2220-1    | 0.047 $\mu$ F – 0.47 $\mu$ F | 0.047 $\mu$ F – 0.22 $\mu$ F |
| 2220-2    | 0.1 $\mu$ F – 1 $\mu$ F      | 0.1 $\mu$ F – 0.47 $\mu$ F   |

## Automotive Grade

### High Voltage C0G Dielectric, 500 – 3,000 VDC

Capacitance Range: 1 pF to 0.15  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/C0G-HV-Auto](http://www.kemet.com/C0G-HV-Auto)



| C       | 1210                                                                                         | C                     | 332                                         | J                                                                                                                                                 | C                                                                                   | G          | A                    | C                               | AUTO                                                |
|---------|----------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|----------------------|---------------------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W")                                                                          | Specification/ Series | Capacitance Code (pF)                       | Capacitance Tolerance <sup>1</sup>                                                                                                                | Rated Voltage (VDC)                                                                 | Dielectric | Failure Rate/ Design | Termination Finish <sup>2</sup> | Packaging/Grade (C-Spec)                            |
|         | 0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225<br>2824<br>3040<br>3640<br>4540 | C = Standard          | Two significant digits and number of zeros. | B = $\pm 0.10$ pF<br>C = $\pm 0.25$ pF<br>D = $\pm 0.5$ pF<br>F = $\pm 1\%$<br>G = $\pm 2\%$<br>J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | C = 500<br>B = 630<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | G = C0G    | A = N/A              | C = 100% Matte Sn               | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage                |                        |                        |                        |                        |                |                |
|-----------|------------------------|------------------------|------------------------|------------------------|------------------------|----------------|----------------|
|           | 500                    | 630                    | 1,000                  | 1,500                  | 2,000                  | 2,500          | 3,000          |
| 0805      | 1 pF – 820 pF          | 1 pF – 560 pF          | 1 pF – 270 pF          |                        |                        |                |                |
| 1206      | 10 pF – 4.7 nF         | 10 pF – 4.7 nF         | 10 pF – 1 nF           | 10 pF – 560 pF         | 10 pF – 270 pF         |                |                |
| 1210      | 10 pF – 8.2 nF         | 10 pF – 6.8 nF         | 10 pF – 2.7 nF         | 10 pF – 1.2 nF         | 10 pF – 680 pF         |                |                |
| 1808      | 1 pF – 6.8 nF          | 1 pF – 4.7 nF          | 1 pF – 2.7 nF          | 1 pF – 1.5 nF          | 1 pF – 680 pF          | 1 pF – 390 pF  | 1 pF – 180 pF  |
| 1812      | 10 pF – 0.015 $\mu$ F  | 10 pF – 0.01 $\mu$ F   | 10 pF – 5.6 nF         | 10 pF – 2.7 nF         | 10 pF – 1.5 nF         | 10 pF – 680 pF | 10 pF – 390 pF |
| 1825      | 10 pF – 0.033 $\mu$ F  | 10 pF – 0.018 $\mu$ F  | 10 pF – 0.01 $\mu$ F   | 10 pF – 5.6 nF         | 10 pF – 3 nF           | 10 pF – 1.6 nF | 10 pF – 680 pF |
| 2220      | 10 pF – 0.033 $\mu$ F  | 10 pF – 0.027 $\mu$ F  | 10 pF – 0.012 $\mu$ F  | 10 pF – 6.8 nF         | 10 pF – 3.9 nF         | 10 pF – 1.8 nF | 10 pF – 1 nF   |
| 2225      | 10 pF – 0.039 $\mu$ F  | 10 pF – 0.027 $\mu$ F  | 10 pF – 0.015 $\mu$ F  | 10 pF – 6.8 nF         | 10 pF – 3.9 nF         | 10 pF – 2.2 nF | 10 pF – 1 nF   |
| 2824      | 2.2 nF – 0.056 $\mu$ F | 2.2 nF – 0.039 $\mu$ F | 2.2 nF – 0.022 $\mu$ F | 2.2 nF – 8.2 nF        | 2.2 nF – 5.6 nF        |                |                |
| 3040      | 3.3 nF – 0.1 $\mu$ F   | 3.3 nF – 0.068 $\mu$ F | 3.3 nF – 0.039 $\mu$ F | 3.3 nF – 0.015 $\mu$ F | 3.3 nF – 0.01 $\mu$ F  |                |                |
| 3640      | 3.9 nF – 0.12 $\mu$ F  | 3.9 nF – 0.068 $\mu$ F | 3.9 nF – 0.047 $\mu$ F | 3.9 nF – 0.018 $\mu$ F | 3.9 nF – 0.015 $\mu$ F |                |                |
| 4540      | 4.7 nF – 0.15 $\mu$ F  | 4.7 nF – 0.1 $\mu$ F   | 4.7 nF – 0.068 $\mu$ F | 4.7 nF – 0.027 $\mu$ F | 4.7 nF – 0.018 $\mu$ F |                |                |

### Automotive Grade (cont.)

#### High Voltage with Flexible Termination System (HV FT-CAP), COG Dielectric, 500 – 3,000 VDC

Capacitance Range: 1 pF to 0.039 µF • Temperature Range: -55°C to +125°C

[www.kemet.com/FTCAP-X7R-HV-Auto](http://www.kemet.com/FTCAP-X7R-HV-Auto)



| C       | 2225                                                         | X                       | 393                                         | J                                                                                                    | C                                                                                   | G          | A                    | C                   | AUTO                                                |
|---------|--------------------------------------------------------------|-------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|----------------------|---------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W")                                          | Specification/ Series   | Capacitance Code (pF)                       | Capacitance Tolerance¹                                                                               | Rated Voltage (VDC)                                                                 | Dielectric | Failure Rate/ Design | Termination Finish² | Packaging/Grade (C-Spec)                            |
|         | 0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225 | X= Flexible Termination | Two significant digits and number of zeros. | B = ±0.10 pF<br>C = ±0.25 pF<br>D = ±0.5 pF<br>F = ±1%<br>G = ±2%<br>J = ±5%<br>K = ±10%<br>M = ±20% | C = 500<br>B = 630<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | G = COG    | A = N/A              | C = 100% Matte Sn   | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage          |                  |                  |                   |                   |                   |                   |
|-----------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
|           | 500              | 630              | 1,000            | 1,500             | 2,000             | 2,500             | 3,000             |
| 0805      | 10 pF – 0.022 µF | 10 pF – 0.012 µF | 10 pF – 4.7 nF   |                   |                   |                   |                   |
| 1206      | 10 pF – 0.068 µF | 10 pF – 0.033 µF | 10 pF – 0.022 µF | 10 pF – 0.01 µF   | 10 pF – 2.2 nF    |                   |                   |
| 1210      | 10 pF – 0.15 µF  | 10 pF – 0.1 µF   | 10 pF – 0.068 µF | 10 pF – 0.039 µF  | 10 pF – 6.8 nF    |                   |                   |
| 1808      | 10 pF – 0.15 µF  | 10 pF – 0.1 µF   | 10 pF – 0.068 µF | 10 pF – 0.015 µF  | 10 pF – 4.7 nF    | 10 pF – 2.2 nF    | 10 pF – 1 nF      |
| 1812      | 51 pF – 0.33 µF  | 51 pF – 0.15 µF  | 51 pF – 0.1 µF   | 51 pF – 0.033 µF  | 51 pF – 0.01 µF   | 51 pF – 4.7 nF    | 51 pF – 1.2 nF    |
| 1825      | 470 pF – 0.39 µF | 470 pF – 0.27 µF | 470 pF – 0.1 µF  | 470 pF – 0.068 µF | 470 pF – 0.015 µF | 470 pF – 0.01 µF  | 470 pF – 3.3 nF   |
| 2220      | 470 pF – 0.47 µF | 470 pF – 0.33 µF | 470 pF – 0.12 µF | 470 pF – 0.082 µF | 470 pF – 0.022 µF | 470 pF – 0.015 µF | 470 pF – 0.015 µF |
| 2225      | 680 pF – 0.56 µF | 680 pF – 0.47 µF | 680 pF – 0.15 µF | 680 pF – 0.1 µF   | 680 pF – 0.027 µF | 680 pF – 0.015 µF | 680 pF – 0.015 µF |

## Automotive Grade (cont.)

### High Voltage X7R Dielectric, 500 – 3,000 VDC

Capacitance Range: 10 pF to 0.56  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/X7R-HV-Auto](http://www.kemet.com/X7R-HV-Auto)



| C       | 1210                                                                 | C                     | 154                                         | K                                              | C                                                                                   | R          | A                    | C                   | AUTO                                                |
|---------|----------------------------------------------------------------------|-----------------------|---------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------|------------|----------------------|---------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W")                                                  | Specification/ Series | Capacitance Code (pF)                       | Capacitance Tolerance                          | Rated Voltage (VDC)                                                                 | Dielectric | Failure Rate/ Design | Termination Finish¹ | Packaging/Grade (C-Spec)                            |
|         | 0603<br>0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225 | C = Standard          | Two significant digits and number of zeros. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | C = 500<br>B = 630<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | R = X7R    | A = N/A              | C = 100% Matte Sn   | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage               |                       |                       |                        |                        |                        |                        |
|-----------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
|           | 500                   | 630                   | 1,000                 | 1,500                  | 2,000                  | 2,500                  | 3,000                  |
| 0603      | 1 nF – 3.9 nF         | 1 nF – 1.5 nF         | 1 nF                  |                        |                        |                        |                        |
| 0805      | 10 pF – 0.022 $\mu$ F | 10 pF – 0.012 $\mu$ F | 10 pF – 4.7 nF        |                        |                        |                        |                        |
| 1206      | 10 pF – 0.068 $\mu$ F | 10 pF – 0.033 $\mu$ F | 10 pF – 0.022 $\mu$ F | 10 pF – 0.01 $\mu$ F   | 10 pF – 2.2 nF         |                        |                        |
| 1210      | 10 pF – 0.15 $\mu$ F  | 10 pF – 0.1 $\mu$ F   | 10 pF – 0.068 $\mu$ F | 10 pF – 0.039 $\mu$ F  | 10 pF – 6.8 nF         |                        |                        |
| 1808      | 10 pF – 0.15 $\mu$ F  | 10 pF – 0.1 $\mu$ F   | 10 pF – 0.068 $\mu$ F | 10 pF – 0.015 $\mu$ F  | 10 pF – 4.7 nF         | 10 pF – 2.2 nF         | 10 pF – 1 nF           |
| 1812      | 10 pF – 0.33 $\mu$ F  | 10 pF – 0.15 $\mu$ F  | 10 pF – 0.1 $\mu$ F   | 10 pF – 0.033 $\mu$ F  | 10 pF – 0.01 $\mu$ F   | 10 pF – 4.7 nF         | 10 pF – 1.2 nF         |
| 1825      | 100 pF – 0.39 $\mu$ F | 100 pF – 0.27 $\mu$ F | 100 pF – 0.1 $\mu$ F  | 100 pF – 0.068 $\mu$ F | 100 pF – 0.015 $\mu$ F | 100 pF – 0.01 $\mu$ F  | 100 pF – 2.2 nF        |
| 2220      | 100 pF – 0.47 $\mu$ F | 100 pF – 0.33 $\mu$ F | 100 pF – 0.12 $\mu$ F | 100 pF – 0.082 $\mu$ F | 100 pF – 0.022 $\mu$ F | 100 pF – 0.015 $\mu$ F | 100 pF – 0.015 $\mu$ F |
| 2225      | 100 pF – 0.56 $\mu$ F | 100 pF – 0.47 $\mu$ F | 100 pF – 0.15 $\mu$ F | 100 pF – 0.1 $\mu$ F   | 100 pF – 0.027 $\mu$ F | 100 pF – 0.015 $\mu$ F | 100 pF – 0.015 $\mu$ F |

### High Voltage with Flexible Termination System (HV FT-CAP) X7R Dielectric, 500 – 3,000 VDC

Capacitance Range: 10 pF to 0.56  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/FTCAP-X7R-HV-Auto](http://www.kemet.com/FTCAP-X7R-HV-Auto)



| C       | 1210                                                                 | X                        | 154                                         | K                                              | C                                                                                   | R          | A                    | C                   | AUTO                                                |
|---------|----------------------------------------------------------------------|--------------------------|---------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------|------------|----------------------|---------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W")                                                  | Specification/ Series    | Capacitance Code (pF)                       | Capacitance Tolerance                          | Rated Voltage (VDC)                                                                 | Dielectric | Failure Rate/ Design | Termination Finish¹ | Packaging/Grade (C-Spec)                            |
|         | 0603<br>0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225 | X = Flexible Termination | Two significant digits and number of zeros. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | C = 500<br>B = 630<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | R = X7R    | A = N/A              | C = 100% Matte Sn   | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage               |                       |                       |                        |                        |                        |                        |
|-----------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
|           | 500                   | 630                   | 1,000                 | 1,500                  | 2,000                  | 2,500                  | 3,000                  |
| 0603      | 1 nF – 3.9 nF         | 1 nF – 1.5 nF         | 1 nF                  |                        |                        |                        |                        |
| 0805      | 10 pF – 0.022 $\mu$ F | 10 pF – 0.012 $\mu$ F | 10 pF – 4.7 nF        |                        |                        |                        |                        |
| 1206      | 10 pF – 0.068 $\mu$ F | 10 pF – 0.033 $\mu$ F | 10 pF – 0.022 $\mu$ F | 10 pF – 0.01 $\mu$ F   | 10 pF – 2.2 nF         |                        |                        |
| 1210      | 10 pF – 0.15 $\mu$ F  | 10 pF – 0.1 $\mu$ F   | 10 pF – 0.068 $\mu$ F | 10 pF – 0.039 $\mu$ F  | 10 pF – 6.8 nF         |                        |                        |
| 1808      | 10 pF – 0.15 $\mu$ F  | 10 pF – 0.1 $\mu$ F   | 10 pF – 0.068 $\mu$ F | 10 pF – 0.015 $\mu$ F  | 10 pF – 4.7 nF         | 10 pF – 2.2 nF         | 10 pF – 1 nF           |
| 1812      | 51 pF – 0.33 $\mu$ F  | 51 pF – 0.15 $\mu$ F  | 51 pF – 0.1 $\mu$ F   | 51 pF – 0.033 $\mu$ F  | 51 pF – 0.01 $\mu$ F   | 51 pF – 4.7 nF         | 51 pF – 1.2 nF         |
| 1825      | 470 pF – 0.39 $\mu$ F | 470 pF – 0.27 $\mu$ F | 470 pF – 0.1 $\mu$ F  | 470 pF – 0.068 $\mu$ F | 470 pF – 0.015 $\mu$ F | 470 pF – 0.01 $\mu$ F  | 470 pF – 3.3 nF        |
| 2220      | 470 pF – 0.47 $\mu$ F | 470 pF – 0.33 $\mu$ F | 470 pF – 0.12 $\mu$ F | 470 pF – 0.082 $\mu$ F | 470 pF – 0.022 $\mu$ F | 470 pF – 0.015 $\mu$ F | 470 pF – 0.015 $\mu$ F |
| 2225      | 680 pF – 0.56 $\mu$ F | 680 pF – 0.47 $\mu$ F | 680 pF – 0.15 $\mu$ F | 680 pF – 0.1 $\mu$ F   | 680 pF – 0.027 $\mu$ F | 680 pF – 0.015 $\mu$ F | 680 pF – 0.015 $\mu$ F |

### Automotive Grade (cont.)

#### ArcShield™ Technology, X7R Dielectric, 500 – 1,000 VDC

Capacitance Range: 1,000 pF to 0.56 µF • Temperature Range: -55°C to +125°C

[www.kemet.com/ArcShield-X7R](http://www.kemet.com/ArcShield-X7R)



| C       | 0603                                                                 | W                                                           | 392                                         | K                               | C                               | R          | A                    | C                                             | TU                                                  |
|---------|----------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------|---------------------------------|---------------------------------|------------|----------------------|-----------------------------------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W")                                                  | Specification/ Series                                       | Capacitance Code (pF)                       | Capacitance Tolerance           | Rated Voltage (VDC)             | Dielectric | Failure Rate/ Design | Termination Finish <sup>1</sup>               | Packaging/ Grade (C-Spec) <sup>2</sup>              |
|         | 0603<br>0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225 | V = ArcShield<br>W = ArcShield<br>with Flexible Termination | Two significant digits and number of zeros. | J = ±5%<br>K = ±10%<br>M = ±20% | C = 500<br>B = 630<br>D = 1,000 | R = X7R    | A = N/A              | C = 100% Matte Sn<br>L = SnPb (5% PB minimum) | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage             |                     |                     |
|-----------|---------------------|---------------------|---------------------|
|           | 500                 | 630                 | 1,000               |
| 0603      | 1 nF – 3.9 nF       | 1 nF – 1.5 nF       | 1 nF                |
| 0805      | 2.2 nF – 0.022 µF   | 2.2 nF – 0.012 µF   | 2.2 nF – 4.7 nF     |
| 1206      | 0.012 µF – 0.068 µF | 0.012 µF – 0.033 µF | 0.012 µF – 0.022 µF |
| 1210      | 0.022 µF – 0.15 µF  | 0.022 µF – 0.1 µF   | 0.022 µF – 0.068 µF |
| 1808      | 0.018 µF – 0.15 µF  | 0.018 µF – 0.1 µF   | 0.018 µF – 0.068 µF |
| 1812      | 0.027 µF – 0.33 µF  | 0.027 µF – 0.15 µF  | 0.027 µF – 0.1 µF   |
| 1825      | 0.12 µF – 0.39 µF   | 0.12 µF – 0.27 µF   |                     |
| 2220      | 0.15 µF – 0.47 µF   | 0.15 µF – 0.33 µF   |                     |
| 2225      | 0.18 µF – 0.56 µF   | 0.18 µF – 0.47 µF   |                     |

#### KPS High Voltage, X7R Dielectric, 500 and 630 VDC

Capacitance Range: 0.047 µF to 1 µF • Temperature Range: -55°C to +125°C

[www.kemet.com/KPS-HV-X7R](http://www.kemet.com/KPS-HV-X7R)



| C       | 2220                | C                     | 105                                         | M                                  | C                   | R          | 2                                                      | C                             | 7186                                                |
|---------|---------------------|-----------------------|---------------------------------------------|------------------------------------|---------------------|------------|--------------------------------------------------------|-------------------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W") | Specification/ Series | Capacitance Code (pF)                       | Capacitance Tolerance <sup>1</sup> | Rated Voltage (VDC) | Dielectric | Failure Rate/ Design                                   | Leadframe Finish <sup>2</sup> | Packaging/ Grade (C-Spec)                           |
|         | 2220                | C = Standard          | Two significant digits and number of zeros. | K = ±10%<br>M = ±20%               | C = 500<br>B = 630  | R = X7R    | 1 = KPS Single Chip Stack<br>2 = KPS Double Chip Stack | C = 100% Matte Sn             | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage            |                    |
|-----------|--------------------|--------------------|
|           | 500                | 630                |
| 2220-1    | 0.047 µF – 0.47 µF | 0.047 µF – 0.22 µF |
| 2220-2    | 0.1 µF – 1 µF      | 0.1 µF – 0.47 µF   |

## Industrial and Military Grade

### High Voltage Military Equivalent, C0G Dielectric, 1515 – 6560 Case Sizes, 500 – 5,000 VDC

Capacitance Range: 12 pF to 0.1  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/MIL-EQV-C0G](http://www.kemet.com/MIL-EQV-C0G)



| 6560                                                                                                 | N          | 683                                                                                     | J                                                                              | 501                                                                                    | P                                                    | M                                                                                                        |
|------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Case Size (L"x W")                                                                                   | Dielectric | Capacitance Code (pF)                                                                   | Capacitance Tolerance                                                          | Voltage                                                                                | Termination                                          | Screening                                                                                                |
| 1515<br>1812<br>1825<br>2020<br>2225<br>2520<br>3333<br>3530<br>4040<br>4540<br>5440<br>5550<br>6560 | N = C0G    | First two digits are significant. Last digit is number or zeros.<br>i.e., 472 = 4,700pF | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20%<br>P = 0/+100%<br>Z = -20%/+80% | First two digits are significant. Last digit is number or zeros.<br>i.e., 202 = 2,000V | P = PdAg<br>S = Ag<br>E = Ag/Ni/SnPb<br>C = Ag/Ni/Sn | Blank = No additional screening<br>M = Group A screening per MIL-PRF-49470 (Subgroup 1 excluding Corona) |

| Case Size | Voltage                |                        |                        |                       |                |                |
|-----------|------------------------|------------------------|------------------------|-----------------------|----------------|----------------|
|           | 500                    | 1,000                  | 2,000                  | 3,000                 | 4,000          | 5,000          |
| 1515      | 27 pF – 4.7 nF         | 27 pF – 1.5 nF         | 12 pF – 680 pF         | 12 pF – 150 pF        |                |                |
| 1812      | 27 pF – 2.7 nF         | 27 pF – 1.2 nF         | 12 pF – 470 pF         | 12 pF – 120 pF        |                |                |
| 1825      | 39 pF – 8.2 nF         | 39 pF – 3.9 nF         | 22 pF – 820 pF         | 22 pF – 560 pF        |                |                |
| 2020      | 39 pF – 8.2 nF         | 39 pF – 0.033 $\mu$ F  | 22 pF – 820 pF         | 22 pF – 560 pF        |                |                |
| 2225      | 47 pF – 0.012 $\mu$ F  | 47 pF – 8.2 nF         | 27 pF – 1.2 nF         | 27 pF – 0.012 $\mu$ F |                |                |
| 2520      | 47 pF – 0.01 $\mu$ F   | 47 pF – 6.8 nF         | 27 pF – 1.2 nF         | 27 pF – 680 pF        |                |                |
| 3333      | 100 pF – 0.015 $\mu$ F | 100 pF – 0.012 $\mu$ F | 47 pF – 2.7 nF         | 47 pF – 1.5 nF        | 27 pF – 680 pF |                |
| 3530      | 100 pF – 0.022 $\mu$ F | 100 pF – 0.018 $\mu$ F | 47 pF – 3.3 nF         | 47 pF – 1.5 nF        | 27 pF – 680 pF |                |
| 4040      | 220 pF – 0.039 $\mu$ F | 220 pF – 0.022 $\mu$ F | 100 pF – 5.6 nF        | 100 pF – 2.2 nF       | 18 pF – 1.2 nF |                |
| 4540      | 220 pF – 0.056 $\mu$ F | 220 pF – 0.033 $\mu$ F | 100 pF – 6.8 nF        | 100 pF – 3.9 nF       | 18 pF – 1.5 nF | 18 pF – 1 nF   |
| 5440      | 390 pF – 0.082 $\mu$ F | 390 pF – 0.033 $\mu$ F | 150 pF – 8.2 nF        | 150 pF – 3.3 nF       | 27 pF – 2.2 nF |                |
| 5550      | 390 pF – 0.1 $\mu$ F   | 390 pF – 0.047 $\mu$ F | 150 pF – 0.01 $\mu$ F  | 150 pF – 6.8 nF       | 27 pF – 2.2 nF | 27 pF – 2.2 nF |
| 6560      | 470 pF – 0.1 $\mu$ F   | 470 pF – 0.068 $\mu$ F | 270 pF – 0.018 $\mu$ F | 270 pF – 8.2 nF       | 47 pF – 3.9 nF | 47 pF – 2.7 nF |

### Industrial and Military Grade (cont.)

#### High Voltage Military Equivalent, X7R Dielectric, 1515 – 6560 Case Sizes, 500 – 5,000 VDC

Capacitance Range: 330 pF to 2.9  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/MIL-EQV-X7R](http://www.kemet.com/MIL-EQV-X7R)



| 4540                                                                                                 | B                  | 472                                                                                    | M                                                                | 202                                                                                   | P                                                    | M                                                                                                        |
|------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Case Size (L"x W")                                                                                   | Dielectric         | Capacitance Code (pF)                                                                  | Capacitance Tolerance                                            | Voltage                                                                               | Termination                                          | Screening                                                                                                |
| 1515<br>1812<br>1825<br>2020<br>2225<br>2520<br>3333<br>3530<br>4040<br>4540<br>5440<br>5550<br>6560 | B = X7R<br>R = X7R | First two digits are significant. Last digit is number or zeros.<br>i.e., 472 = 4700pF | K = $\pm 10\%$<br>M = $\pm 20\%$<br>P = 0/+100%<br>Z = -20%/+80% | First two digits are significant. Last digit is number or zeros.<br>i.e., 202 = 2000V | P = PdAg<br>S = Ag<br>E = Ag/Ni/SnPb<br>C = Ag/Ni/Sn | Blank = No additional screening<br>M = Group A screening per MIL-PRF-49470 (Subgroup 1 excluding Corona) |

| Case Size | Voltage                     |                             |                        |                        |                        |                        |
|-----------|-----------------------------|-----------------------------|------------------------|------------------------|------------------------|------------------------|
|           | 500                         | 1,000                       | 2,000                  | 3,000                  | 4,000                  | 5,000                  |
| 1515      | 680 pF – 0.1 $\mu$ F        | 680 pF – 0.022 $\mu$ F      | 270 pF – 3.9 nF        |                        |                        |                        |
| 1812      | 680 pF – 0.056 $\mu$ F      | 680 pF – 0.018 $\mu$ F      | 270 pF – 2.7 nF        |                        |                        |                        |
| 1825      | 1.2 nF – 0.15 $\mu$ F       | 1.2 nF – 0.068 $\mu$ F      | 560 pF – 8.2 nF        | 560 pF – 2.7 nF        |                        |                        |
| 2020      | 1.2 nF – 0.18 $\mu$ F       | 1.2 nF – 0.068 $\mu$ F      | 560 pF – 8.2 nF        | 560 pF – 3.9 nF        |                        |                        |
| 2225      | 1.2 nF – 0.22 $\mu$ F       | 1.2 nF – 0.068 $\mu$ F      | 680 pF – 0.015 $\mu$ F | 680 pF – 4.7 nF        |                        |                        |
| 2520      | 1.2 nF – 0.22 $\mu$ F       | 1.2 nF – 0.082 $\mu$ F      | 680 pF – 0.018 $\mu$ F | 680 pF – 5.6 nF        |                        |                        |
| 3333      | 3.3 nF – 0.82 $\mu$ F       | 3.3 nF – 0.47 $\mu$ F       | 1.2 nF – 0.027 $\mu$ F | 1.2 nF – 0.022 $\mu$ F |                        |                        |
| 3530      | 3.3 nF – 0.56 $\mu$ F       | 3.3 nF – 0.27 $\mu$ F       | 1.2 nF – 0.033 $\mu$ F | 1.2 nF – 0.015 $\mu$ F | 270 pF – 6.8 nF        |                        |
| 4040      | 6.8 nF – 0.82 $\mu$ F       | 6.8 nF – 0.39 $\mu$ F       | 2.7 nF – 0.047 $\mu$ F | 2.7 nF – 0.018 $\mu$ F | 470 pF – 8.2 nF        |                        |
| 4540      | 6.8 nF – 1.2 $\mu$ F        | 6.8 nF – 0.47 $\mu$ F       | 2.7 nF – 0.068 $\mu$ F | 1 nF – 0.33 $\mu$ F    | 470 pF – 0.01 $\mu$ F  | 470 pF – 6.8 nF        |
| 5440      | 0.01 $\mu$ F – 1.5 $\mu$ F  | 0.01 $\mu$ F – 0.68 $\mu$ F | 3.9 nF – 0.056 $\mu$ F | 3.9 nF – 0.012 $\mu$ F | 680 pF – 0.01 $\mu$ F  |                        |
| 5550      | 0.01 $\mu$ F – 1.8 $\mu$ F  | 0.01 $\mu$ F – 0.82 $\mu$ F | 3.9 nF – 0.12 $\mu$ F  | 3.9 nF – 0.039 $\mu$ F | 680 pF – 0.015 $\mu$ F | 680 pF – 0.01 $\mu$ F  |
| 6560      | 0.015 $\mu$ F – 2.2 $\mu$ F | 0.015 $\mu$ F – 1 $\mu$ F   | 6.8 nF – 0.18 $\mu$ F  | 6.8 nF – 0.18 $\mu$ F  | 1.2 nF – 0.027 $\mu$ F | 1.2 nF – 0.015 $\mu$ F |

## Industrial and Military Grade (cont.)

**HV-HT High Voltage, High Temperature 200°C, C0G Dielectric, 500 – 2,000 VDC**

Capacitance Range: 1 pF to 0.15 µF • Temperature Range: -55°C to +200°C

[www.kemet.com/HV-HT-C0G](http://www.kemet.com/HV-HT-C0G)



| C       | 2225                                                                                         | H                            | 393                                         | J                                                                                                    | C                                                         | G          | A                    | C                                                                                                                                            | TU                                                  |
|---------|----------------------------------------------------------------------------------------------|------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Ceramic | Case Size (L" x W")                                                                          | Specification/ Series        | Capacitance Code (pF)                       | Capacitance Tolerance <sup>1</sup>                                                                   | Rated Voltage (VDC)                                       | Dielectric | Failure Rate/ Design | Termination Finish <sup>2</sup>                                                                                                              | Packaging/ Grade (C-Spec)                           |
|         | 0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225<br>2824<br>3040<br>3640<br>4540 | H = High Temperature (200°C) | Two significant digits and number of zeros. | B = ±0.10 pF<br>C = ±0.25 pF<br>D = ±0.5 pF<br>F = ±1%<br>G = ±2%<br>J = ±5%<br>K = ±10%<br>M = ±20% | C = 500<br>B = 630<br>D = 1,000<br>F = 1,500<br>G = 2,000 | G = C0G    | A = N/A              | C = 100% Matte Sn<br>L = SnPb (5% Pb minimum)<br>E = Gold (Au) 1.97 – 11.8 µin<br>F = Gold (Au) 30 – 50 µin<br>G = Gold (Au) 100 µin minimum | See "Packaging C-Spec Ordering Options Table" below |

| Case Size | Voltage           |                   |                   |                   |                   |
|-----------|-------------------|-------------------|-------------------|-------------------|-------------------|
|           | 500               | 630               | 1,000             | 1,500             | 2,000             |
| 0805      | 1 pF – 820 pF     | 1 pF – 560 pF     | 1 pF – 270 pF     |                   |                   |
| 1206      | 10 pF – 2.7 nF    | 10 pF – 1.8 nF    | 10 pF – 1 nF      | 10 pF – 560 pF    | 10 pF – 270 pF    |
| 1210      | 10 pF – 8.2 nF    | 10 pF – 5.6 nF    | 10 pF – 2.7 nF    | 10 pF – 1.2 nF    | 10 pF – 680 pF    |
| 1808      | 1 pF – 6.8 nF     | 1 pF – 4.7 nF     | 1 pF – 2.7 nF     | 1 pF – 1.5 nF     | 1 pF – 680 pF     |
| 1812      | 10 pF – 0.015 µF  | 10 pF – 0.01 µF   | 10 pF – 5.6 nF    | 10 pF – 2.7 nF    | 10 pF – 1.5 nF    |
| 1825      | 10 pF – 0.033 µF  | 10 pF – 0.018 µF  | 10 pF – 0.01 µF   | 10 pF – 5.6 nF    | 10 pF – 3 nF      |
| 2220      | 10 pF – 0.033 µF  | 10 pF – 0.027 µF  | 10 pF – 0.012 µF  | 10 pF – 6.8 nF    | 10 pF – 3.9 nF    |
| 2225      | 10 pF – 0.039 µF  | 10 pF – 0.027 µF  | 10 pF – 0.015 µF  | 10 pF – 6.8 nF    | 10 pF – 3.9 nF    |
| 2824      | 2.2 nF – 0.056 µF | 2.2 nF – 0.039 µF | 2.2 nF – 0.022 µF | 2.2 nF – 8.2 nF   | 2.2 nF – 5.6 nF   |
| 3040      | 3.3 nF – 0.1 µF   | 3.3 nF – 0.068 µF | 3.3 nF – 0.039 µF | 3.3 nF – 0.015 µF | 3.3 nF – 0.01 µF  |
| 3640      | 3.9 nF – 0.12 µF  | 3.9 nF – 0.068 µF | 3.9 nF – 0.047 µF | 3.9 nF – 0.018 µF | 3.9 nF – 0.015 µF |
| 4540      | 4.7 nF – 0.15 µF  | 4.7 nF – 0.1 µF   | 4.7 nF – 0.068 µF | 4.7 nF – 0.027 µF | 4.7 nF – 0.018 µF |

### Industrial and Military Grade (cont.)

#### KPS HV, Large Case, SM Series, COG Dielectric, 500 – 10,000 VDC

Capacitance Range: 10 pF to 0.39  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/SM-HV-COG](http://www.kemet.com/SM-HV-COG)



| SM20                                                 |                                              | N          | 472                                        | J                                                 | 501                                                                                                                 | B                                | M                                             |
|------------------------------------------------------|----------------------------------------------|------------|--------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------------------------|
| Style/Size                                           |                                              | Dielectric | Capacitance Code (pF)                      | Capacitance Tolerance                             | Rated Voltage (VDC)                                                                                                 | Lead Configuration <sup>1</sup>  | Testing/ Inspection Option <sup>2</sup>       |
| SM20<br>SM21<br>SM22<br>SM23<br>SM24<br>SM25<br>SM26 | SM30<br>SM31<br>SM33<br>SM34<br>SM35<br>SM36 | N = COG    | Two significant digits and number of zeros | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | 501 = 500<br>102 = 1,000<br>202 = 2,000<br>302 = 3,000<br>402 = 4,000<br>502 = 5,000<br>752 = 7,500<br>103 = 10,000 | A = Formed "L"<br>B = Formed "J" | Blank = None<br>M = Group A per MIL-PRF-49467 |

| Case Size | Voltage                |                        |                        |                        |                       |                 |                 |                |
|-----------|------------------------|------------------------|------------------------|------------------------|-----------------------|-----------------|-----------------|----------------|
|           | 500                    | 1,000                  | 2,000                  | 3,000                  | 4,000                 | 5,000           | 7,500           | 10,000         |
| SM20      | 39 pF – 2.7 nF         | 39 pF – 2.7 nF         | 39 pF – 820 pF         | 39 pF – 270 pF         |                       |                 |                 |                |
| SM21      | 39 pF – 4.7 nF         | 39 pF – 4.7 nF         | 22 pF – 1.8 nF         | 22 pF – 560 pF         |                       |                 |                 |                |
| SM22      | 33 pF – 0.018 $\mu$ F  | 33 pF – 6.8 nF         | 33 pF – 3.3 nF         | 33 pF – 1.2 nF         |                       |                 |                 |                |
| SM23      | 82 pF – 0.033 $\mu$ F  | 82 pF – 0.015 $\mu$ F  | 82 pF – 5.6 nF         | 82 pF – 2.2 nF         | 82 pF – 680 pF        |                 |                 |                |
| SM24      | 56 pF – 0.068 $\mu$ F  | 56 pF – 0.047 $\mu$ F  | 56 pF – 0.01 $\mu$ F   | 56 pF – 4.7 nF         | 27 pF – 1.5 nF        | 27 pF – 1.5 nF  |                 |                |
| SM25      | 270 pF – 0.047 $\mu$ F | 270 pF – 0.047 $\mu$ F | 180 pF – 0.012 $\mu$ F | 180 pF – 5.6 nF        | 180 pF – 1.8 nF       | 180 pF – 1.8 nF |                 |                |
| SM26      | 180 pF – 0.068 $\mu$ F | 180 pF – 0.068 $\mu$ F | 180 pF – 0.022 $\mu$ F | 180 pF – 8.2 nF        | 100 pF – 3.9 nF       | 100 pF – 3.9 nF |                 |                |
| SM30      | 22 pF – 5.6 nF         | 22 pF – 5.6 nF         | 22 pF – 1.8 nF         | 22 pF – 680 pF         | 22 pF – 120 pF        |                 |                 |                |
| SM31      | 27 pF – 0.033 $\mu$ F  | 27 pF – 0.012 $\mu$ F  | 27 pF – 5.6 nF         | 27 pF – 1.5 nF         | 22 pF – 180 pF        | 22 pF – 180 pF  |                 |                |
| SM33      | 82 pF – 0.1 $\mu$ F    | 82 pF – 0.047 $\mu$ F  | 82 pF – 0.018 $\mu$ F  | 82 pF – 6.8 nF         | 82 pF – 2.7 nF        | 27 pF – 2.7 nF  | 27 pF – 1 nF    |                |
| SM34      | 68 pF – 0.15 $\mu$ F   | 68 pF – 0.056 $\mu$ F  | 56 pF – 0.022 $\mu$ F  | 56 pF – 0.015 $\mu$ F  | 47 pF – 2.7 nF        | 47 pF – 2.7 nF  | 39 pF – 1 nF    | 39 pF – 560 pF |
| SM35      | 150 pF – 0.27 $\mu$ F  | 150 pF – 0.15 $\mu$ F  | 150 pF – 0.047 $\mu$ F | 150 pF – 0.022 $\mu$ F | 150 pF – 3.9 nF       | 150 pF – 3.9 nF | 150 pF – 1.8 nF | 47 pF – 1 nF   |
| SM36      | 150 pF – 0.39 $\mu$ F  | 150 pF – 0.15 $\mu$ F  | 150 pF – 0.056 $\mu$ F | 150 pF – 0.033 $\mu$ F | 120 pF – 0.01 $\mu$ F | 120 pF – 6.8 nF | 120 pF – 3.3 nF | 1 nF – 1.5 nF  |

## Industrial and Military Grade (cont.)

### KPS HV, Large Case, SM Series, X7R Dielectric, 500 – 10,000 VDC

Capacitance Range: 150 pF to 5.6  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/SM-HV-X7R](http://www.kemet.com/SM-HV-X7R)



| SM20                                                 |                                              | B          | 153                                        | K                                | 501                                                                                                                 | B                                | M                                             |
|------------------------------------------------------|----------------------------------------------|------------|--------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------------------------|
| Style/Size                                           |                                              | Dielectric | Capacitance Code (pF)                      | Capacitance Tolerance            | Rated Voltage (VDC)                                                                                                 | Lead Configuration <sup>1</sup>  | Testing/ Inspection Option <sup>2</sup>       |
| SM20<br>SM21<br>SM22<br>SM23<br>SM24<br>SM25<br>SM26 | SM30<br>SM31<br>SM33<br>SM34<br>SM35<br>SM36 | B = X7R    | Two significant digits and number of zeros | K = $\pm 10\%$<br>M = $\pm 20\%$ | 501 = 500<br>102 = 1,000<br>202 = 2,000<br>302 = 3,000<br>402 = 4,000<br>502 = 5,000<br>752 = 7,500<br>103 = 10,000 | A = Formed "L"<br>B = Formed "J" | Blank = None<br>M = Group A per MIL-PRF-49467 |

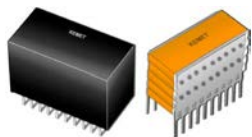
| Case Size | Voltage               |                        |                        |                        |                        |                        |                        |                       |
|-----------|-----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|
|           | 500                   | 1,000                  | 2,000                  | 3,000                  | 4,000                  | 5,000                  | 7,500                  | 10,000                |
| SM20      | 330 pF – 0.1 $\mu$ F  | 330 pF – 0.022 $\mu$ F | 330 pF – 3.9 nF        |                        |                        |                        |                        |                       |
| SM21      | 820 pF – 0.18 $\mu$ F | 820 pF – 0.068 $\mu$ F | 820 pF – 0.012 $\mu$ F | 820 pF – 4.7 nF        |                        |                        |                        |                       |
| SM22      | 680 pF – 0.27 $\mu$ F | 680 pF – 0.1 $\mu$ F   | 680 pF – 0.015 $\mu$ F | 680 pF – 5.6 nF        |                        |                        |                        |                       |
| SM23      | 1 nF – 0.56 $\mu$ F   | 1 nF – 0.27 $\mu$ F    | 1 nF – 0.033 $\mu$ F   | 1 nF – 0.015 $\mu$ F   | 1 nF – 6.8 nF          |                        |                        |                       |
| SM24      | 1 nF – 1.2 $\mu$ F    | 1 nF – 0.47 $\mu$ F    | 1 nF – 0.1 $\mu$ F     | 1 nF – 0.033 $\mu$ F   | 1 nF – 0.012 $\mu$ F   | 1 nF – 6.8 nF          |                        |                       |
| SM25      | 2.2 nF – 1.8 $\mu$ F  | 2.2 nF – 0.47 $\mu$ F  | 2.2 nF – 0.12 $\mu$ F  | 2.2 nF – 0.047 $\mu$ F | 2.2 nF – 0.015 $\mu$ F | 2.2 nF – 0.01 $\mu$ F  |                        |                       |
| SM26      | 2.2 nF – 2.9 $\mu$ F  | 2.2 nF – 1 $\mu$ F     | 2.2 nF – 0.18 $\mu$ F  | 2.2 nF – 0.1 $\mu$ F   | 3.9 nF – 0.033 $\mu$ F | 3.9 nF – 0.015 $\mu$ F |                        |                       |
| SM30      | 150 pF – 0.18 $\mu$ F | 150 pF – 0.056 $\mu$ F | 150 pF – 0.01 $\mu$ F  | 150 pF – 3.3 nF        | 150 pF – 1.5 nF        |                        |                        |                       |
| SM31      | 680 pF – 0.39 $\mu$ F | 680 pF – 0.1 $\mu$ F   | 680 pF – 0.022 $\mu$ F | 680 pF – 8.2 nF        | 680 pF – 3.9 nF        | 680 pF – 1.5 nF        |                        |                       |
| SM33      | 820 pF – 1.5 $\mu$ F  | 820 pF – 0.68 $\mu$ F  | 820 pF – 0.082 $\mu$ F | 820 pF – 0.039 $\mu$ F | 820 pF – 0.012 $\mu$ F | 820 pF – 6.8 nF        | 820 pF – 4.7 nF        |                       |
| SM34      | 1 nF – 2.2 $\mu$ F    | 1 nF – 1 $\mu$ F       | 1 nF – 0.27 $\mu$ F    | 1 nF – 0.082 $\mu$ F   | 1 nF – 0.033 $\mu$ F   | 1 nF – 0.022 $\mu$ F   | 1 nF – 6.8 nF          | 1 nF – 5.6 nF         |
| SM35      | 3.3 nF – 3.9 $\mu$ F  | 3.3 nF – 1.2 $\mu$ F   | 3.3 nF – 0.27 $\mu$ F  | 3.3 nF – 0.1 $\mu$ F   | 3.3 nF – 0.047 $\mu$ F | 3.3 nF – 0.027 $\mu$ F | 3.3 nF – 0.01 $\mu$ F  | 1 nF – 6.8 nF         |
| SM36      | 4.7 nF – 5.6 $\mu$ F  | 4.7 nF – 2.2 $\mu$ F   | 4.7 nF – 0.33 $\mu$ F  | 4.7 nF – 0.15 $\mu$ F  | 4.7 nF – 0.068 $\mu$ F | 4.7 nF – 0.033 $\mu$ F | 4.7 nF – 0.022 $\mu$ F | 1.5 nF – 0.01 $\mu$ F |

## Industrial and Military Grade (cont.)

### KPS MIL SMPS Stacked Capacitors, 50 – 1,000 VDC (Commercial, Military, and Space Grades)

Capacitance Range: 0.047  $\mu$ F to 75  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/Stack-MIL](http://www.kemet.com/Stack-MIL)



| L1                                   | R                                                     | N                                                                                    | 30                                  | C                                                                         | 106                                        | K                                              | S                                                                                                                  | 12                                                                                                                                                                         |
|--------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Family <sup>1</sup>          | Dielectric Classification/Characteristic <sup>2</sup> | Lead Configuration <sup>3</sup>                                                      | Case Size/Case Code (CC)            | Rated Voltage (VDC)                                                       | Capacitance Code (pF)                      | Capacitance Tolerance                          | Testing Option <sup>4</sup>                                                                                        | Maximum Height Dimension (in.) <sup>5</sup>                                                                                                                                |
| L1=Unencapsulated<br>L2=Encapsulated | Q = BQ<br>R = BR<br>X = BX<br>W = X7R                 | N = Straight<br>L = Formed "L"<br>M = Formed "L"<br>J = Formed "J"<br>K = Formed "J" | 30 = CC 3<br>40 = CC 4<br>50 = CC 5 | 3 = 25<br>5 = 50<br>1 = 100<br>2 = 200<br>C = 500<br>B = 630<br>D = 1,000 | Two significant digits and number of zeros | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | B = M49470 "B" Level<br>T = M49470 "T" Level<br>C = DSCC87106<br>X = Non-Standard (Customer Specific Requirements) | Unencapsulated<br>12 = 0.12"<br>24 = 0.24"<br>36 = 0.36"<br>48 = 0.48"<br>65 = 0.65"<br>Encapsulated<br>27 = 0.27"<br>39 = 0.39"<br>53 = 0.53"<br>66 = 0.66"<br>80 = 0.80" |

### MIL-PRF-49470, DSCC 87106

| M49470                                                                                                | R                                                     | 01                                                                               | 474                                        | K                                              | C                                       | N                                                                                        |
|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------|
| Performance Specification Indicating MIL-PRF-49470 <sup>1</sup>                                       | Dielectric Classification/Characteristic <sup>2</sup> | Performance Specification Sheet Number (Indicating MIL-PRF-49470/1) <sup>3</sup> | Capacitance Code (pF)                      | Capacitance Tolerance                          | Rated Voltage (VDC)                     | Lead Configuration <sup>4</sup>                                                          |
| M49470 = B level<br>T49470 = T level<br>A "T" prefix is used in place of the "M" for T level product. | Q = BQ<br>R = BR<br>X = BX                            | 01 = Unencapsulated<br>02 = Encapsulated                                         | Two significant digits and number of zeros | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | A = 50<br>B = 100<br>C = 200<br>E = 500 | N = Straight Pin<br>L = Formed "L"<br>M = Formed "L"<br>J = Formed "J"<br>K = Formed "J" |

#### BQ

| Case Size | Voltage                    |                             |
|-----------|----------------------------|-----------------------------|
|           | 200                        | 500                         |
| 3         | 2.4 $\mu$ F – 27 $\mu$ F   | 2.2 $\mu$ F – 5.6 $\mu$ F   |
| 4         | 0.82 $\mu$ F – 10 $\mu$ F  | 0.82 $\mu$ F – 1.8 $\mu$ F  |
| 5         | 0.33 $\mu$ F – 3.3 $\mu$ F | 0.15 $\mu$ F – 0.68 $\mu$ F |

#### BX

| Case Size | Voltage                    |                            |                            |
|-----------|----------------------------|----------------------------|----------------------------|
|           | 25                         | 50                         | 100                        |
| 3         | 6.8 $\mu$ F – 75 $\mu$ F   | 6.8 $\mu$ F – 75 $\mu$ F   | 10 $\mu$ F – 27 $\mu$ F    |
| 4         | 2.2 $\mu$ F – 24 $\mu$ F   | 2.2 $\mu$ F – 24 $\mu$ F   | 3.9 $\mu$ F – 8.2 $\mu$ F  |
| 5         | 0.82 $\mu$ F – 7.5 $\mu$ F | 0.82 $\mu$ F – 7.5 $\mu$ F | 0.68 $\mu$ F – 3.3 $\mu$ F |

#### BR

| Case Size | Voltage                  |                            |
|-----------|--------------------------|----------------------------|
|           | 100                      | 200                        |
| 3         | 5.6 $\mu$ F – 50 $\mu$ F | 4.7 $\mu$ F – 12 $\mu$ F   |
| 4         | 1.5 $\mu$ F – 18 $\mu$ F | 1.8 $\mu$ F – 3.9 $\mu$ F  |
| 5         | 0.56 $\mu$ F – 6 $\mu$ F | 0.47 $\mu$ F – 1.5 $\mu$ F |

#### X7R

| Case Size | Voltage                    |                            |                           |
|-----------|----------------------------|----------------------------|---------------------------|
|           | 500                        | 630                        | 1,000                     |
| 3         | 1 $\mu$ F – 12 $\mu$ F     | 0.22 $\mu$ F – 6.8 $\mu$ F | 0.1 $\mu$ F – 3.3 $\mu$ F |
| 4         | 0.39 $\mu$ F – 3.9 $\mu$ F | 0.1 $\mu$ F – 2.2 $\mu$ F  | 0.1 $\mu$ F – 1 $\mu$ F   |
| 5         | 0.12 $\mu$ F – 1.5 $\mu$ F | 6.8 nF – 0.75 $\mu$ F      | 4.7 nF – 0.39 $\mu$ F     |

## Commercial Grade

### Goldmax 300, Radial, Conformal Coated, COG Dielectric, 500 – 3,000 VDC

Capacitance Range: 1 pF to 0.039  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/C300-COG](http://www.kemet.com/C300-COG)



| C       | 320                                                                                                          | C                        | 332                                                                                                   | J                                                                                                                              | C                                                                                   | G          | 5              | T                                           | A               | 7301                                                                  |
|---------|--------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|----------------|---------------------------------------------|-----------------|-----------------------------------------------------------------------|
| Ceramic | Style/Size                                                                                                   | Specification/<br>Series | Capacitance<br>Code (pF)                                                                              | Capacitance<br>Tolerance <sup>1</sup>                                                                                          | Rated Voltage<br>(VDC)                                                              | Dielectric | Design         | Lead<br>Finish <sup>2</sup>                 | Failure<br>Rate | Packaging<br>(C-Spec)                                                 |
|         | 315 324 335<br>316 325 336<br>317 326 340<br>318 327 346<br>320 328 350<br>321 330 356<br>322 331<br>323 333 | C = Standard             | First two digits<br>represent<br>significant<br>figures. Third<br>digit specifies<br>number of zeros. | B = $\pm 0.1$ pF<br>C = $\pm 0.25$ pF<br>D = $\pm 0.5$ pF<br>F = $\pm 1\%$<br>G = $\pm 2\%$<br>J = $\pm 5\%$<br>K = $\pm 10\%$ | C = 500<br>B = 630<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | G = COG    | 5 = Multilayer | T = 100%<br>Matte Sn<br>H = SnPb<br>(60/40) | A = N/A         | See<br>"Packaging<br>C-Spec<br>Ordering<br>Options<br>Table"<br>below |

| Case Size | Voltage               |                       |                       |                |                |                |                |
|-----------|-----------------------|-----------------------|-----------------------|----------------|----------------|----------------|----------------|
|           | 500                   | 630                   | 1,000                 | 1,500          | 2,000          | 2,500          | 3,000          |
| C31x      | 1 pF – 820 pF         | 1 pF – 560 pF         | 1 pF – 270 pF         |                |                |                |                |
| C32x      | 1 pF – 8.2 nF         | 1 pF – 6.8 nF         | 1 pF – 2.7 nF         | 10 pF – 1.2 nF | 10 pF – 680 pF |                |                |
| C33x      | 10 pF – 0.033 $\mu$ F | 10 pF – 0.018 $\mu$ F | 10 pF – 0.012 $\mu$ F | 10 pF – 5.6 nF | 10 pF – 3 nF   | 10 pF – 1.8 nF | 10 pF – 680 pF |
| C34x      | 10 pF – 0.033 $\mu$ F | 10 pF – 0.018 $\mu$ F | 10 pF – 0.012 $\mu$ F | 10 pF – 5.6 nF | 10 pF – 3 nF   | 10 pF – 1.8 nF | 10 pF – 680 pF |
| C35x      | 10 pF – 0.039 $\mu$ F | 10 pF – 0.027 $\mu$ F | 10 pF – 0.015 $\mu$ F | 10 pF – 6.8 nF | 10 pF – 3.9 nF | 10 pF – 2.2 nF | 10 pF – 1 nF   |

### Goldmax 600, Radial, Conformal Coated, COG Dielectric, 500 – 3,000 VDC

Capacitance Range: 12 pF to 0.1  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/C600-COG](http://www.kemet.com/C600-COG)



| C       | 627                                                                                           | C                        | 224                                                                                                      | K                                                     | C                                                                        | G          | 5              | T                                           | A               | 7301                                                                  |
|---------|-----------------------------------------------------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------|------------|----------------|---------------------------------------------|-----------------|-----------------------------------------------------------------------|
| Ceramic | Style/Size                                                                                    | Specification/<br>Series | Capacitance<br>Code (pF)                                                                                 | Capacitance<br>Tolerance <sup>1</sup>                 | Rated Voltage<br>(VDC)                                                   | Dielectric | Design         | Lead<br>Finish <sup>2</sup>                 | Failure<br>Rate | Packaging<br>(C-Spec)                                                 |
|         | 617 637 648<br>622 638 657<br>623 640 658<br>627 641 667<br>628 642 668<br>630 643<br>631 647 | C = Standard             | First two digits<br>represent<br>significant<br>figures. Third<br>digit specifies<br>number of<br>zeros. | K = $\pm 10\%$<br>M = $\pm 20\%$<br>Z = +80%,<br>-20% | C = 500<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | G = COG    | 5 = Multilayer | T = 100%<br>Matte Sn<br>H = SnPb<br>(60/40) | A = N/A         | See<br>"Packaging<br>C-Spec<br>Ordering<br>Options<br>Table"<br>below |

| Case Size | Voltage                |                        |                |                        |                |                 |
|-----------|------------------------|------------------------|----------------|------------------------|----------------|-----------------|
|           | 500                    | 1,000                  | 1,500          | 2,000                  | 2,500          | 3,000           |
| C61x      | 12 pF – 4.7 nF         | 12 pF – 2.2 nF         | 15 pF – 680 pF | 15 pF – 680 pF         |                | 15 pF – 330 pF  |
| C62x      | 22 pF – 0.018 $\mu$ F  | 22 pF – 6.8 nF         | 22 pF – 3.3 nF | 22 pF – 3.3 nF         |                | 22 pF – 1.2 nF  |
| C63x      | 15 pF – 0.033 $\mu$ F  | 15 pF – 0.015 $\mu$ F  | 82 pF – 5.6 nF | 15 pF – 5.6 nF         | 15 pF – 2.2 nF | 15 pF – 2.2 nF  |
| C64x      | 56 pF – 0.047 $\mu$ F  | 56 pF – 0.047 $\mu$ F  |                | 56 pF – 0.01 $\mu$ F   |                | 56 pF – 4.7 nF  |
| C65x      | 180 pF – 0.047 $\mu$ F | 180 pF – 0.047 $\mu$ F |                | 180 pF – 0.012 $\mu$ F |                | 180 pF – 5.6 nF |
| C66x      | 180 pF – 0.1 $\mu$ F   | 180 pF – 0.068 $\mu$ F |                | 180 pF – 0.022 $\mu$ F |                | 180 pF – 8.2 nF |

# Ceramic Capacitors

Leaded

## Commercial Grade (cont.)

### Goldmax 300, Radial, Conformal Coated, X7R Dielectric, 500 – 3,000 VDC

Capacitance Range: 10 pF to 0.56  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/C300-X7R](http://www.kemet.com/C300-X7R)



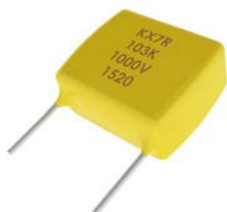
| C       | 320        |     |     | C                        | 473                                                                                                      | K                                              | C                                                                                   | R          | 5                 | T                                           | A               | 7301                                                               |
|---------|------------|-----|-----|--------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------|------------|-------------------|---------------------------------------------|-----------------|--------------------------------------------------------------------|
| Ceramic | Style/Size |     |     | Specification/<br>Series | Capacitance<br>Code (pF)                                                                                 | Capacitance<br>Tolerance <sup>1</sup>          | Rated Voltage<br>(VDC)                                                              | Dielectric | Design            | Lead<br>Finish <sup>2</sup>                 | Failure<br>Rate | Packaging<br>(C-Spec)                                              |
|         | 315        | 324 | 335 | C =<br>Standard          | First two digits<br>represent<br>significant<br>figures. Third<br>digit specifies<br>number of<br>zeros. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | C = 500<br>B = 630<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | R =<br>X7R | 5 =<br>Multilayer | T = 100%<br>Matte Sn<br>H = SnPb<br>(60/40) | A =<br>N/A      | See<br>"Packaging<br>C-Spec<br>Ordering<br>Options Table"<br>below |
|         | 316        | 325 | 336 |                          |                                                                                                          |                                                |                                                                                     |            |                   |                                             |                 |                                                                    |
|         | 317        | 326 | 340 |                          |                                                                                                          |                                                |                                                                                     |            |                   |                                             |                 |                                                                    |
|         | 318        | 327 | 346 |                          |                                                                                                          |                                                |                                                                                     |            |                   |                                             |                 |                                                                    |
|         | 320        | 328 | 350 |                          |                                                                                                          |                                                |                                                                                     |            |                   |                                             |                 |                                                                    |
|         | 321        | 330 | 356 |                          |                                                                                                          |                                                |                                                                                     |            |                   |                                             |                 |                                                                    |
|         | 322        | 331 |     |                          |                                                                                                          |                                                |                                                                                     |            |                   |                                             |                 |                                                                    |
|         | 323        | 333 |     |                          |                                                                                                          |                                                |                                                                                     |            |                   |                                             |                 |                                                                    |

| Case Size | Voltage               |                       |                       |                       |                        |                        |                        |
|-----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|
|           | 500                   | 630                   | 1,000                 | 1,500                 | 2,000                  | 2,500                  | 3,000                  |
| C31x      | 10 pF – 0.012 $\mu$ F | 10 pF – 8.2 nF        | 10 pF – 4.7 nF        |                       |                        |                        |                        |
| C32x      | 10 pF – 0.15 $\mu$ F  | 10 pF – 0.1 $\mu$ F   | 10 pF – 0.068 $\mu$ F | 10 pF – 0.039 $\mu$ F | 10 pF – 6.8 nF         |                        |                        |
| C33x      | 10 pF – 0.47 $\mu$ F  | 10 pF – 0.33 $\mu$ F  | 10 pF – 0.12 $\mu$ F  | 10 pF – 0.068 $\mu$ F | 10 pF – 0.018 $\mu$ F  | 10 pF – 0.012 $\mu$ F  | 10 pF – 0.012 $\mu$ F  |
| C34x      | 10 pF – 0.47 $\mu$ F  | 10 pF – 0.33 $\mu$ F  | 10 pF – 0.12 $\mu$ F  | 10 pF – 0.068 $\mu$ F | 10 pF – 0.018 $\mu$ F  | 10 pF – 0.012 $\mu$ F  | 10 pF – 0.012 $\mu$ F  |
| C35x      | 100 pF – 0.56 $\mu$ F | 100 pF – 0.15 $\mu$ F | 100 pF – 0.15 $\mu$ F | 100 pF – 0.1 $\mu$ F  | 100 pF – 0.027 $\mu$ F | 100 pF – 0.015 $\mu$ F | 100 pF – 0.015 $\mu$ F |

### Goldmax 600, Radial, Conformal Coated, X7R Dielectric, 500 – 3,000 VDC

Capacitance Range: 150 pF to 2.9  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/C600-C0G](http://www.kemet.com/C600-C0G)



| C       | 627        |     |     | C                        | 224                                                                                                      | K                                                   | C                                                                        | R          | 5                 | T                                           | A               | 7301                                                               |
|---------|------------|-----|-----|--------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------|------------|-------------------|---------------------------------------------|-----------------|--------------------------------------------------------------------|
| Ceramic | Style/Size |     |     | Specification/<br>Series | Capacitance<br>Code (pF)                                                                                 | Capacitance<br>Tolerance <sup>1</sup>               | Rated Voltage<br>(VDC)                                                   | Dielectric | Design            | Lead Finish <sup>2</sup>                    | Failure<br>Rate | Packaging<br>(C-Spec)                                              |
|         | 617        | 637 | 648 | C =<br>Standard          | First two digits<br>represent<br>significant<br>figures. Third<br>digit specifies<br>number of<br>zeros. | K = $\pm$ 10%<br>M = $\pm$ 20%<br>Z = +80%,<br>-20% | C = 500<br>D = 1,000<br>F = 1,500<br>G = 2,000<br>Z = 2,500<br>H = 3,000 | R =<br>X7R | 5 =<br>Multilayer | T = 100%<br>Matte Sn<br>H = SnPb<br>(60/40) | A =<br>N/A      | See<br>"Packaging<br>C-Spec<br>Ordering<br>Options<br>Table" below |
|         | 622        | 638 | 657 |                          |                                                                                                          |                                                     |                                                                          |            |                   |                                             |                 |                                                                    |
|         | 623        | 640 | 658 |                          |                                                                                                          |                                                     |                                                                          |            |                   |                                             |                 |                                                                    |
|         | 627        | 641 | 667 |                          |                                                                                                          |                                                     |                                                                          |            |                   |                                             |                 |                                                                    |
|         | 628        | 642 | 668 |                          |                                                                                                          |                                                     |                                                                          |            |                   |                                             |                 |                                                                    |
|         | 630        | 643 |     |                          |                                                                                                          |                                                     |                                                                          |            |                   |                                             |                 |                                                                    |
|         | 631        | 647 |     |                          |                                                                                                          |                                                     |                                                                          |            |                   |                                             |                 |                                                                    |

| Case Size | Voltage                |                        |                |                        |                |                 |
|-----------|------------------------|------------------------|----------------|------------------------|----------------|-----------------|
|           | 500                    | 1,000                  | 1,500          | 2,000                  | 2,500          | 3,000           |
| C61x      | 12 pF – 4.7 nF         | 12 pF – 2.2 nF         | 15 pF – 680 pF | 15 pF – 680 pF         |                | 15 pF – 330 pF  |
| C62x      | 22 pF – 0.018 $\mu$ F  | 22 pF – 6.8 nF         | 22 pF – 3.3 nF | 22 pF – 3.3 nF         |                | 22 pF – 1.2 nF  |
| C63x      | 15 pF – 0.033 $\mu$ F  | 15 pF – 0.015 $\mu$ F  | 82 pF – 5.6 nF | 15 pF – 5.6 nF         | 15 pF – 2.2 nF | 15 pF – 2.2 nF  |
| C64x      | 56 pF – 0.047 $\mu$ F  | 56 pF – 0.047 $\mu$ F  |                | 56 pF – 0.01 $\mu$ F   |                | 56 pF – 4.7 nF  |
| C65x      | 180 pF – 0.047 $\mu$ F | 180 pF – 0.047 $\mu$ F |                | 180 pF – 0.012 $\mu$ F |                | 180 pF – 5.6 nF |
| C66x      | 180 pF – 0.1 $\mu$ F   | 180 pF – 0.068 $\mu$ F |                | 180 pF – 0.022 $\mu$ F |                | 180 pF – 8.2 nF |

## Industrial and Military Grade

### HV Radial, Conformal Coated, C0G and X7R Dielectric, 500 – 10,000 VDC

Capacitance Range: 12 pF to 5.6  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/HV-Radial](http://www.kemet.com/HV-Radial)



| 10                                                                                                           | HV23        | N                        | 102                                        | K                                                 | N                                                     | M                                        |
|--------------------------------------------------------------------------------------------------------------|-------------|--------------------------|--------------------------------------------|---------------------------------------------------|-------------------------------------------------------|------------------------------------------|
| Rated Voltage (VDC)                                                                                          | Style/Size  | Dielectric               | Capacitance Code (pF)                      | Capacitance Tolerance                             | Lead Finish                                           | Group A Screening                        |
| 05 = 500<br>10 = 1,000<br>20 = 2,000<br>30 = 3,000<br>40 = 4,000<br>50 = 5,000<br>75 = 7,500<br>100 = 10,000 | HV20 – HV36 | N = C0G (NP0)<br>B = X7R | Two significant digits and number of zeros | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | N = Nickel<br>C = Solder Coated Clad Steel (Standard) | MIL-PRF-49467 (Subgroup 1) except Corona |

### C0G

| Case Size                   | Voltage                |                        |                        |                        |
|-----------------------------|------------------------|------------------------|------------------------|------------------------|
|                             | 500                    | 1,000                  | 2,000                  | 3,000                  |
| HV20 (6.35 x 5.59 x 5.08)   | 27 pF – 4.7 nF         | 27 pF – 1.5 nF         | 12 pF – 680 pF         | 12 pF – 470 pF         |
| HV21 (8.13 x 7.11 x 6.35)   | 39 pF – 0.01 $\mu$ F   | 39 pF – 0.01 $\mu$ F   | 22 pF – 1 nF           | 22 pF – 560 pF         |
| HV22 (9.4 x 7.62 x 6.35)    | 47 pF – 0.01 $\mu$ F   | 47 pF – 3.9 nF         | 27 pF – 1 nF           | 27 pF – 680 pF         |
| HV23 (11.94 x 10.16 x 6.86) | 120 pF – 0.022 $\mu$ F | 120 pF – 0.018 $\mu$ F | 47 pF – 3.3 nF         | 47 pF – 1 nF           |
| HV24 (14.48 x 12.7 x 6.86)  | 220 pF – 0.056 $\mu$ F | 220 pF – 0.033 $\mu$ F | 100 pF – 6.8 nF        | 100 pF – 3.9 nF        |
| HV25 (17.02 x 15.24 x 6.86) | 330 pF – 0.082 $\mu$ F | 220 pF – 0.047 $\mu$ F | 150 pF – 0.01 $\mu$ F  | 150 pF – 6.8 nF        |
| HV26 (19.56 x 18.29 x 6.86) | 470 pF – 0.1 $\mu$ F   | 220 pF – 0.068 $\mu$ F | 220 pF – 0.022 $\mu$ F | 220 pF – 8.2 nF        |
| HV30 (11.43 x 5.59 x 5.08)  | 68 pF – 0.015 $\mu$ F  | 68 pF – 4.7 nF         | 15 pF – 1 nF           | 15 pF – 390 pF         |
| HV31 (13.97 x 7.11 x 6.35)  | 82 pF – 0.027 $\mu$ F  | 82 pF – 0.012 $\mu$ F  | 27 pF – 2.2 nF         | 27 pF – 1.2 nF         |
| HV33 (21.59 x 10.16 x 6.86) | 330 pF – 0.12 $\mu$ F  | 220 pF – 0.068 $\mu$ F | 68 pF – 0.015 $\mu$ F  | 68 pF – 4.7 nF         |
| HV34 (26.67 x 12.7 x 6.86)  | 470 pF – 0.15 $\mu$ F  | 220 pF – 0.056 $\mu$ F | 120 pF – 0.015 $\mu$ F | 120 pF – 5.6 nF        |
| HV35 (31.75 x 15.24 x 6.86) | 680 pF – 0.22 $\mu$ F  | 220 pF – 0.1 $\mu$ F   | 220 pF – 0.022 $\mu$ F | 220 pF – 0.015 $\mu$ F |
| HV36 (36.83 x 18.29 x 6.86) | 1 nF – 0.33 $\mu$ F    | 1 nF – 0.15 $\mu$ F    | 270 pF – 0.039 $\mu$ F | 270 pF – 0.018 $\mu$ F |

### C0G (cont.)

| Case Size                   | Voltage         |                 |                |                |
|-----------------------------|-----------------|-----------------|----------------|----------------|
|                             | 4,000           | 5,000           | 7,000          | 10,000         |
| HV23 (11.94 x 10.16 x 6.86) | 27 pF – 680 pF  |                 |                |                |
| HV24 (14.48 x 12.7 x 6.86)  | 18 pF – 1.5 nF  | 18 pF – 1 nF    |                |                |
| HV25 (17.02 x 15.24 x 6.86) | 27 pF – 2.7 nF  | 27 pF – 2.7 nF  |                |                |
| HV26 (19.56 x 18.29 x 6.86) | 47 pF – 3.9 nF  | 47 pF – 2.7 nF  |                |                |
| HV30 (11.43 x 5.59 x 5.08)  | 10 pF – 220 pF  |                 |                |                |
| HV31 (13.97 x 7.11 x 6.35)  | 10 pF – 560 pF  | 10 pF – 390 pF  |                |                |
| HV33 (21.59 x 10.16 x 6.86) | 27 pF – 1.5 nF  | 27 pF – 1.2 nF  | 12 pF – 470 pF |                |
| HV34 (26.67 x 12.7 x 6.86)  | 47 pF – 3.3 nF  | 47 pF – 2.2 nF  | 18 pF – 1 nF   | 18 pF – 820 pF |
| HV35 (31.75 x 15.24 x 6.86) | 82 pF – 5.6 nF  | 82 pF – 3.9 nF  | 33 pF – 1.8 nF | 33 pF – 1.2 nF |
| HV36 (36.83 x 18.29 x 6.86) | 120 pF – 8.2 nF | 120 pF – 5.6 nF | 56 pF – 2.7 nF | 56 pF – 2.2 nF |

## Industrial and Military Grade (cont.)

### HV Radial, Conformal Coated, C0G and X7R Dielectric, 500 – 10,000 VDC (cont.)

Capacitance Range: 12 pF to 5.6 µF • Temperature Range: -55°C to +125°C

[www.kemet.com/HV-Radial](http://www.kemet.com/HV-Radial)



| 10                                                                                                           | HV23        | N                        | 102                                        | K                               | N                                                     | M                                        |
|--------------------------------------------------------------------------------------------------------------|-------------|--------------------------|--------------------------------------------|---------------------------------|-------------------------------------------------------|------------------------------------------|
| Rated Voltage (VDC)                                                                                          | Style/Size  | Dielectric               | Capacitance Code (pF)                      | Capacitance Tolerance           | Lead Finish                                           | Group A Screening                        |
| 05 = 500<br>10 = 1,000<br>20 = 2,000<br>30 = 3,000<br>40 = 4,000<br>50 = 5,000<br>75 = 7,500<br>100 = 10,000 | HV20 – HV36 | N = C0G (NP0)<br>B = X7R | Two significant digits and number of zeros | J = ±5%<br>K = ±10%<br>M = ±20% | N = Nickel<br>C = Solder Coated Clad Steel (Standard) | MIL-PRF-49467 (Subgroup 1) except Corona |

### X7R

| Case Size                   | Voltage |                   |                   |                   |
|-----------------------------|---------|-------------------|-------------------|-------------------|
|                             | 200     | 500               | 1,000             | 2,000             |
| HV20 (6.35 x 5.59 x 5.08)   |         | 680 pF – 0.082 µF | 680 pF – 0.022 µF | 270 pF – 4.7 nF   |
| HV21 (8.13 x 7.11 x 6.35)   |         | 100 pF – 0.18 µF  | 1.2 nF – 0.068 µF | 560 pF – 0.012 µF |
| HV22 (9.4 x 7.62 x 6.35)    | 0.22 µF | 1.2 nF – 0.22 µF  | 1.2 nF – 0.1 µF   | 680 pF – 0.018 µF |
| HV23 (11.94 x 10.16 x 6.86) |         | 3.3 nF – 0.56 µF  | 3.3 nF – 0.27 µF  | 1.2 nF – 0.033 µF |
| HV24 (14.48 x 12.7 x 6.86)  |         | 6.8 nF – 1.2 µF   | 6.8 nF – 0.47 µF  | 2.7 nF – 0.1 µF   |
| HV25 (17.02 x 15.24 x 6.86) |         | 0.01 µF – 1.8 µF  | 0.01 µF – 0.68 µF | 3.9 nF – 0.1 µF   |
| HV26 (19.56 x 18.29 x 6.86) |         | 0.015 µF – 2.2 µF | 0.015 µF – 1 µF   | 6.8 nF – 0.18 µF  |
| HV30 (11.43 x 5.59 x 5.08)  |         | 1.8 nF – 0.22 µF  | 1.8 nF – 0.056 µF | 390 pF – 8.2 nF   |
| HV31 (13.97 x 7.11 x 6.35)  |         | 2.7 nF – 0.39 µF  | 2.7 nF – 0.15 µF  | 680 pF – 0.022 µF |
| HV33 (21.59 x 10.16 x 6.86) |         | 0.01 µF – 1.5 µF  | 0.01 µF – 0.68 µF | 1.8 nF – 0.082 µF |
| HV34 (26.67 x 12.7 x 6.86)  |         | 0.012 µF – 2.2 µF | 0.012 µF – 1 µF   | 3.3 nF – 1 µF     |
| HV35 (31.75 x 15.24 x 6.86) |         | 0.018 µF – 3.9 µF | 0.018 µF – 1.5 µF | 5.6 nF – 0.27 µF  |
| HV36 (36.83 x 18.29 x 6.86) |         | 0.027 µF – 5.6 µF | 0.027 µF – 2.2 µF | 8.2 nF – 0.39 µF  |

### X7R (cont.)

| Case Size                   | Voltage           |                   |                   |                   |
|-----------------------------|-------------------|-------------------|-------------------|-------------------|
|                             | 3,000             | 4,000             | 5,000             | 7,000             |
| HV23 (11.94 x 10.16 x 6.86) | 1 nF – 0.015 µF   | 270 pF – 6.8 nF   |                   |                   |
| HV24 (14.48 x 12.7 x 6.86)  | 2.7 nF – 0.033 µF | 470 pF – 0.01 µF  | 470 pF – 6.8 nF   |                   |
| HV25 (17.02 x 15.24 x 6.86) | 3.9 nF – 0.039 µF | 680 pF – 0.015 µF | 680 pF – 0.01 µF  |                   |
| HV26 (19.56 x 18.29 x 6.86) | 6.8 nF – 0.082 µF | 1.2 nF – 0.027 µF | 1.2 nF – 0.015 µF |                   |
| HV30 (11.43 x 5.59 x 5.08)  | 390 pF – 2.2 nF   | 150 pF – 1.2 nF   |                   |                   |
| HV31 (13.97 x 7.11 x 6.35)  | 680 pF – 8.2 nF   | 270 pF – 4.7 nF   | 270 pF – 2.7 nF   |                   |
| HV33 (21.59 x 10.16 x 6.86) | 1.8 nF – 0.027 µF | 680 pF – 0.012 µF | 680 pF – 8.2 nF   | 220 pF – 3.3 nF   |
| HV34 (26.67 x 12.7 x 6.86)  | 3.3 nF – 0.056 µF | 1.2 nF – 0.027 µF | 1.2 nF – 0.022 µF | 470 pF – 6.8 nF   |
| HV35 (31.75 x 15.24 x 6.86) | 5.6 nF – 0.082 µF | 2.2 nF – 0.047 µF | 2.2 nF – 0.027 µF | 820 pF – 0.01 µF  |
| HV36 (36.83 x 18.29 x 6.86) | 8.2 nF – 0.15 µF  | 3.3 nF – 0.068 µF | 3.3 nF – 0.039 µF | 1.2 nF – 0.033 µF |

## Industrial and Military Grade (cont.)

### HV MIL-PRF-49467 Equivalent, Radial, BP BR and BZ, 500 – 5,000 VDC

Capacitance Range: 15 pF to 1.0  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/HV-MIL-49467](http://www.kemet.com/HV-MIL-49467)



| 10                                                                                         | HV60        | R                                                | 102                                        | K                                              | C                |
|--------------------------------------------------------------------------------------------|-------------|--------------------------------------------------|--------------------------------------------|------------------------------------------------|------------------|
| Rated Voltage (VDC)                                                                        | Style/Size  | Dielectric                                       | Capacitance Code (pF)                      | Capacitance Tolerance                          | Grade/Test Level |
| 05 = 500<br>06 = 600<br>10 = 1,000<br>20 = 2,000<br>30 = 3,000<br>40 = 4,000<br>50 = 5,000 | HV60 – HV69 | P = BP C0G (NP0)<br>R = BR (X7R)<br>Z = BZ (X7R) | Two significant digits and number of zeros | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | C = CSAM         |

### BP

| Case Size                      | Voltage                |                        |                       |                 |                 |                 |
|--------------------------------|------------------------|------------------------|-----------------------|-----------------|-----------------|-----------------|
|                                | 600                    | 1,000                  | 2,000                 | 3,000           | 4,000           | 5,000           |
| HV60 (6.35 x 5.588 x 5.08)     | 27 pF – 5.6 nF         | 27 pF – 1.5 nF         | 12 pF – 390 pF        |                 |                 |                 |
| HV61 (8.128 x 7.112 x 6.35)    | 39 pF – 0.012 $\mu$ F  | 39 pF – 1.8 nF         | 22 pF – 1 nF          | 22 pF – 470 pF  |                 |                 |
| HV62 (9.398 x 7.62 x 6.35)     | 47 pF – 0.018 $\mu$ F  | 47 pF – 8.2 nF         | 27 pF – 1.2 nF        | 27 pF – 680 pF  |                 |                 |
| HV63 (11.938 x 10.16 x 6.858)  | 120 pF – 0.039 $\mu$ F | 120 pF – 4.7 nF        | 47 pF – 2.2 nF        | 47 pF – 1.5 nF  | 47 pF – 1 nF    |                 |
| HV64 (14.478 x 12.7 x 6.858)   | 220 pF – 0.068 $\mu$ F | 220 pF – 0.047 $\mu$ F | 100 pF – 4.7 nF       | 100 pF – 3.3 nF | 100 pF – 1.8 nF | 100 pF – 1.2 nF |
| HV65 (17.018 x 15.24 x 6.858)  |                        | 330 pF – 0.018 $\mu$ F | 150 pF – 0.01 $\mu$ F | 150 pF – 4.7 nF | 150 pF – 3.3 nF | 150 pF – 2.2 nF |
| HV66 (19.558 x 18.288 x 6.858) |                        | 470 pF – 0.027 $\mu$ F | 470 pF – 0.01 $\mu$ F | 270 pF – 8.2 nF | 270 pF – 4.7 nF | 270 pF – 3.3 nF |

### BR and BZ

| Case Size                      | Voltage                |                        |                             |                        |                        |                        |                        |
|--------------------------------|------------------------|------------------------|-----------------------------|------------------------|------------------------|------------------------|------------------------|
|                                | 500                    | 600                    | 1,000                       | 2,000                  | 3,000                  | 4,000                  | 5,000                  |
| HV60 (6.35 x 5.588 x 5.08)     | 680 pF – 0.027 $\mu$ F |                        | 680 pF – 0.012 $\mu$ F      | 270 pF – 4.7 nF        |                        |                        |                        |
| HV61 (8.128 x 7.112 x 6.35)    |                        | 1.2 nF – 0.082 $\mu$ F | 1.2 nF – 0.047 $\mu$ F      | 560 pF – 0.01 $\mu$ F  | 560 pF – 3.3 nF        |                        |                        |
| HV62 (9.398 x 7.62 x 6.35)     |                        | 1.2 nF – 0.1 $\mu$ F   | 1.2 nF – 0.1 $\mu$ F        | 680 pF – 0.01 $\mu$ F  | 680 pF – 3.9 nF        |                        |                        |
| HV63 (11.938 x 10.16 x 6.858)  |                        | 3.3 nF – 0.33 $\mu$ F  | 3.3 nF – 0.33 $\mu$ F       | 1.2 nF – 0.033 $\mu$ F | 1.2 nF – 0.015 $\mu$ F | 270 pF – 6.8 nF        |                        |
| HV64 (14.478 x 12.7 x 6.858)   |                        | 6.8 nF – 0.47 $\mu$ F  | 6.8 nF – 0.47 $\mu$ F       | 2.7 nF – 0.1 $\mu$ F   | 2.7 nF – 0.022 $\mu$ F | 470 pF – 0.01 $\mu$ F  | 470 pF – 6.8 nF        |
| HV65 (17.018 x 15.24 x 6.858)  |                        |                        | 0.01 $\mu$ F – 0.22 $\mu$ F | 3.9 nF – 0.082 $\mu$ F | 3.9 nF – 0.033 $\mu$ F | 680 pF – 0.015 $\mu$ F | 680 pF – 0.01 $\mu$ F  |
| HV66 (19.558 x 18.288 x 6.858) |                        |                        | 0.01 $\mu$ F – 0.47 $\mu$ F | 6.8 nF – 0.15 $\mu$ F  | 6.8 nF – 0.056 $\mu$ F | 1.2 nF – 0.027 $\mu$ F | 1.2 nF – 0.015 $\mu$ F |
| HV68 (33.02 x 15.24 x 6.858)   |                        |                        |                             |                        | 5.6 nF – 0.068 $\mu$ F | 2.2 nF – 0.039 $\mu$ F | 2.2 nF – 0.022 $\mu$ F |
| HV69 (38.1 x 18.288 x 6.858)   |                        |                        |                             |                        | 8.2 nF – 0.1 $\mu$ F   | 3.3 nF – 0.056 $\mu$ F | 3.3 nF – 0.056 $\mu$ F |

## Industrial and Military Grade (cont.)

### HS High Voltage Space Quality, Radial, C0G and X7R, Radial, 500 – 10,000 VDC

Capacitance Range: 12 pF to 5.6 µF • Temperature Range: -55°C to +125°C

[www.kemet.com/HS](http://www.kemet.com/HS)



| 10                                                                                                           | HS24        | B                           | 103                                        | K                                                               | C                 | F                                                                                            |
|--------------------------------------------------------------------------------------------------------------|-------------|-----------------------------|--------------------------------------------|-----------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------|
| Rated Voltage (VDC)                                                                                          | Style/Size  | Dielectric                  | Capacitance Code (pF)                      | Capacitance Tolerance                                           | Grade/ Test Level | Lead Finish                                                                                  |
| 05 = 500<br>10 = 1,000<br>20 = 2,000<br>30 = 3,000<br>40 = 4,000<br>50 = 5,000<br>75 = 7,500<br>100 = 10,000 | HS20 – HS36 | B = X7R<br>N = BP C0G (NP0) | Two significant digits and number of zeros | J = ±5%<br>K = ±10%<br>M = ±20%<br>P = 0/+100%<br>Z = -20%/+80% | C = CSAM          | INERT LIQUID (BURN-IN)<br>Standard for > 2kV;<br>Add "F" if required for 500 V or 1 kV parts |

### C0G

| Case Size                   | Voltage           |                   |                   |                   |
|-----------------------------|-------------------|-------------------|-------------------|-------------------|
|                             | 500               | 1,000             | 2,000             | 3,000             |
| HS20 (6.35 x 5.59 x 5.08)   | 27 pF – 4.7 nF    | 27 pF – 2.7 nF    | 12 pF – 470 pF    |                   |
| HS21 (8.13 x 7.11 x 6.35)   | 39 pF – 8.2 nF    | 39 pF – 5.6 nF    | 22 pF – 1.2 nF    |                   |
| HS22 (9.4 x 7.62 x 6.35)    | 47 pF – 0.012 µF  | 47 pF – 5.6 nF    | 27 pF – 1.5 nF    |                   |
| HS23 (11.94 x 10.16 x 6.89) | 120 pF – 0.033 µF | 120 pF – 0.022 µF | 47 pF – 2.7 nF    | 47 pF – 1.8 nF    |
| HS24 (14.48 x 12.7 x 6.89)  | 220 pF – 0.056 µF | 220 pF – 0.047 µF | 100 pF – 5.6 nF   | 100 pF – 3.3 nF   |
| HS25 (17.02 x 15.24 x 6.89) | 390 pF – 0.1 µF   | 390 pF – 0.047 µF | 150 pF – 0.01 µF  | 150 pF – 6.8 nF   |
| HS26 (19.56 x 18.29 x 6.89) | 470 pF – 0.15 µF  | 470 pF – 0.068 µF | 270 pF – 0.022 µF | 270 pF – 0.01 µF  |
| HS30 (11.43 x 5.59 x 5.08)  | 68 pF – 0.012 µF  | 68 pF – 5.6 nF    | 15 pF – 1 nF      | 15 pF – 390 pF    |
| HS31 (13.97 x 7.11 x 6.35)  | 82 pF – 0.022 µF  | 82 pF – 0.012 µF  | 27 pF – 1.2 nF    | 27 pF – 1.2 nF    |
| HS33 (21.59 x 10.16 x 6.89) | 330 pF – 0.082 µF | 330 pF – 0.047 µF | 68 pF – 3.9 nF    | 68 pF – 2.7 nF    |
| HS34 (26.67 x 12.7 x 6.89)  | 470 pF – 0.15 µF  | 470 pF – 0.068 µF | 120 pF – 8.2 nF   | 120 pF – 5.6 nF   |
| HS35 (31.75 x 15.24 x 6.89) | 680 pF – 0.12 µF  | 680 pF – 0.1 µF   | 220 pF – 0.012 µF | 220 pF – 8.2 nF   |
| HS36 (36.83 x 18.29 x 6.89) | 1 nF – 0.18 µF    | 1 nF – 0.068 µF   | 270 pF – 0.018 µF | 270 pF – 0.012 µF |

### C0G (cont.)

| Case Size                   | Voltage          |                 |                |                |
|-----------------------------|------------------|-----------------|----------------|----------------|
|                             | 4,000            | 5,000           | 7,500          | 10,000         |
| HS24 (14.48 x 12.7 x 6.89)  | 15 pF – 1 nF     | 15 pF – 560 pF  |                |                |
| HS25 (17.02 x 15.24 x 6.89) | 27 pF – 1.8 nF   | 27 pF – 1.5 nF  |                |                |
| HS26 (19.56 x 18.29 x 6.89) | 47 pF – 2.7 nF   | 47 pF – 2.2 nF  |                |                |
| HS33 (21.59 x 10.16 x 6.89) | 27 pF – 1.5 nF   | 27 pF – 1.2 nF  |                |                |
| HS34 (26.67 x 12.7 x 6.89)  | 47 pF – 3.3 nF   | 47 pF – 2.2 nF  | 18 pF – 820 pF |                |
| HS35 (31.75 x 15.24 x 6.89) | 82 pF – 4.7 nF   | 82 pF – 3.9 nF  | 33 pF – 1.2 nF | 33 pF – 1 nF   |
| HS36 (36.83 x 18.29 x 6.89) | 120 pF – 0.01 µF | 120 pF – 6.8 nF | 56 pF – 2.7 nF | 56 pF – 1.5 nF |

## Industrial and Military Grade (cont.)

### HS High Voltage Space Quality, Radial, COG and X7R, Radial, 500 – 10,000 VDC (cont.)

Capacitance Range: 12 pF to 5.6  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/HS](http://www.kemet.com/HS)



| 10                                                                                                           | HS24        | B                           | 103                                        | K                                                                              | C                | F                                                                                            |
|--------------------------------------------------------------------------------------------------------------|-------------|-----------------------------|--------------------------------------------|--------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------------|
| Rated Voltage (VDC)                                                                                          | Style/Size  | Dielectric                  | Capacitance Code (pF)                      | Capacitance Tolerance                                                          | Grade/Test Level | Lead Finish                                                                                  |
| 05 = 500<br>10 = 1,000<br>20 = 2,000<br>30 = 3,000<br>40 = 4,000<br>50 = 5,000<br>75 = 7,500<br>100 = 10,000 | HS20 – HS36 | B = X7R<br>N = BP COG (NP0) | Two significant digits and number of zeros | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20%<br>P = 0/+100%<br>Z = -20%/+80% | C = CSAM         | INERT LIQUID (BURN-IN)<br>Standard for > 2kV;<br>Add "F" if required for 500 V or 1 kV parts |

### X7R

| Case Size                   | Voltage                     |                              |                        |                        |
|-----------------------------|-----------------------------|------------------------------|------------------------|------------------------|
|                             | 500                         | 1,000                        | 2,000                  | 3,000                  |
| HS20 (6.35 x 5.59 x 5.08)   | 680 pF – 0.047 $\mu$ F      | 680 pF – 0.012 $\mu$ F       | 270 pF – 4.7 nF        |                        |
| HS21 (8.13 x 7.11 x 6.35)   | 1.2 nF – 0.15 $\mu$ F       | 1.2 nF – 0.047 $\mu$ F       | 560 pF – 0.01 $\mu$ F  |                        |
| HS22 (9.4 x 7.62 x 6.35)    | 1.2 nF – 0.22 $\mu$ F       | 1.2 nF – 0.1 $\mu$ F         | 680 pF – 0.01 $\mu$ F  |                        |
| HS23 (11.94 x 10.16 x 6.89) | 3.3 nF – 0.56 $\mu$ F       | 3.3 nF – 0.27 $\mu$ F        | 1.2 nF – 0.033 $\mu$ F | 1.2 nF – 0.015 $\mu$ F |
| HS24 (14.48 x 12.7 x 6.89)  | 6.8 nF – 0.47 $\mu$ F       | 6.8 nF – 0.47 $\mu$ F        | 2.7 nF – 0.1 $\mu$ F   | 2.7 nF – 0.012 $\mu$ F |
| HS25 (17.02 x 15.24 x 6.89) | 0.01 $\mu$ F – 1 $\mu$ F    | 0.01 $\mu$ F – 0.47 $\mu$ F  | 3.9 nF – 0.068 $\mu$ F | 3.9 nF – 0.022 $\mu$ F |
| HS26 (19.56 x 18.29 x 6.89) | 0.015 $\mu$ F – 2.7 $\mu$ F | 0.015 $\mu$ F – 1 $\mu$ F    | 6.8 nF – 0.18 $\mu$ F  | 6.8 nF – 0.056 $\mu$ F |
| HS30 (11.43 x 5.59 x 5.08)  | 1.8 nF – 0.082 $\mu$ F      | 1.8 nF – 0.018 $\mu$ F       | 390 pF – 3.3 nF        | 390 pF – 1.2 nF        |
| HS31 (13.97 x 7.11 x 6.35)  | 2.7 nF – 0.33 $\mu$ F       | 2.7 nF – 0.1 $\mu$ F         | 560 pF – 0.01 $\mu$ F  | 560 pF – 8.2 nF        |
| HS33 (21.59 x 10.16 x 6.89) | 0.01 $\mu$ F – 1.5 $\mu$ F  | 0.01 $\mu$ F – 0.22 $\mu$ F  | 1.8 nF – 0.033 $\mu$ F | 1.8 nF – 0.015 $\mu$ F |
| HS34 (26.67 x 12.7 x 6.89)  | 0.012 $\mu$ F – 1.2 $\mu$ F | 0.012 $\mu$ F – 1.2 $\mu$ F  | 3.3 nF – 0.068 $\mu$ F | 3.3 nF – 0.027 $\mu$ F |
| HS35 (31.75 x 15.24 x 6.89) | 0.018 $\mu$ F – 2.7 $\mu$ F | 0.018 $\mu$ F – 0.47 $\mu$ F | 5.6 nF – 0.27 $\mu$ F  | 5.6 nF – 0.068 $\mu$ F |
| HS36 (36.83 x 18.29 x 6.89) | 0.027 $\mu$ F – 5.6 $\mu$ F | 0.027 $\mu$ F – 2.2 $\mu$ F  | 8.2 nF – 0.15 $\mu$ F  | 8.2 nF – 0.15 $\mu$ F  |

### X7R (cont.)

| Case Size                   | Voltage                |                        |                        |                       |                        |
|-----------------------------|------------------------|------------------------|------------------------|-----------------------|------------------------|
|                             | 4,000                  | 5,000                  | 7,000                  | 7,500                 | 10,000                 |
| HS25 (17.02 x 15.24 x 6.89) | 680 pF – 0.01 $\mu$ F  | 680 pF – 0.01 $\mu$ F  |                        |                       |                        |
| HS26 (19.56 x 18.29 x 6.89) | 1.2 nF – 0.015 $\mu$ F | 1.2 nF – 0.015 $\mu$ F |                        |                       |                        |
| HS30 (11.43 x 5.59 x 5.08)  |                        |                        |                        |                       |                        |
| HS33 (21.59 x 10.16 x 6.89) | 680 pF – 6.8 nF        | 680 pF – 4.7 nF        |                        | 220 pF – 4.7 nF       |                        |
| HS34 (26.67 x 12.7 x 6.89)  | 1.2 nF – 0.015 $\mu$ F | 1.2 nF – 0.015 $\mu$ F |                        | 470 pF – 3.3 nF       |                        |
| HS35 (31.75 x 15.24 x 6.89) | 2.2 nF – 0.022 $\mu$ F | 2.2 nF – 0.012 $\mu$ F |                        | 820 pF – 0.01 $\mu$ F | 820 pF – 3.3 nF        |
| HS36 (36.83 x 18.29 x 6.89) | 3.3 nF – 0.068 $\mu$ F | 3.3 nF – 0.039 $\mu$ F | 1.2 nF – 0.033 $\mu$ F |                       | 1.2 nF – 0.033 $\mu$ F |

## Industrial and Military Grade (cont.)

**HV 200°C, Radial, Conformal Coated, COG and X7R Dielectric, 500 – 4,000 VDC**

Capacitance Range: 12 pF to 0.47 µF • Temperature Range: -55°C to +200°C

[www.kemet.com/HV200C](http://www.kemet.com/HV200C)



| 10                                                               | HV12        | W                        | 472                                        | K                               | N                                                     | M                                        |
|------------------------------------------------------------------|-------------|--------------------------|--------------------------------------------|---------------------------------|-------------------------------------------------------|------------------------------------------|
| Rated Voltage (VDC)                                              | Style/Size  | Dielectric               | Capacitance Code (pF)                      | Capacitance Tolerance           | Lead Finish                                           | Group A Screening                        |
| 05 = 500<br>10 = 1,000<br>20 = 2,000<br>30 = 3,000<br>40 = 4,000 | HV10 – HV16 | N = COG (NP0)<br>W = X7R | Two significant digits and number of zeros | J = ±5%<br>K = ±10%<br>M = ±20% | N = Nickel (Standard)<br>C = Solder Coated Clad Steel | MIL-PRF-49467 (Subgroup 1) except Corona |

### COG

| Case Size                   | Voltage           |                   |                   |                 |                |
|-----------------------------|-------------------|-------------------|-------------------|-----------------|----------------|
|                             | 500               | 1,000             | 2,000             | 3,000           | 4,000          |
| HV10 (6.35 x 5.59 x 3.81)   | 27 pF – 1.5 nF    | 27 pF – 1.5 nF    | 10 pF – 390 pF    |                 |                |
| HV11 (8.13 x 7.62 x 6.35)   | 39 pF – 2.2 nF    | 39 pF – 1.8 nF    | 22 pF – 1 nF      | 22 pF – 470 pF  |                |
| HV12 (10.67 x 10.16 x 6.35) | 47 pF – 3.3 nF    | 47 pF – 2.7 nF    | 27 pF – 1.5 nF    | 27 pF – 1 nF    |                |
| HV13 (13.21 x 12.7 x 7.62)  | 120 pF – 5.6 nF   | 120 pF – 4.7 nF   | 120 pF – 3.3 nF   | 120 pF – 2.7 nF |                |
| HV14 (15.75 x 12.7 x 7.62)  | 180 pF – 8.2 nF   | 180 pF – 6.8 nF   | 100 pF – 3.9 nF   | 100 pF – 3.3 nF | 18 pF – 2.7 nF |
| HV15 (18.29 x 17.78 x 7.62) | 390 pF – 0.01 µF  | 390 pF – 0.01 µF  | 150 pF – 4.7 nF   | 150 pF – 3.9 nF | 27 pF – 3.3 nF |
| HV16 (20.83 x 17.78 x 8.89) | 470 pF – 0.015 µF | 470 pF – 0.015 µF | 270 pF – 0.012 µF | 270 pF – 8.2 nF | 47 pF – 5.6 nF |

### X7R

| Case Size                   | Voltage            |                    |                   |                   |                   |
|-----------------------------|--------------------|--------------------|-------------------|-------------------|-------------------|
|                             | 500                | 1,000              | 2,000             | 3,000             | 4,000             |
| HV10 (6.35 x 5.59 x 3.81)   | 680 pF – 0.047 µF  | 680 pF – 0.012 µF  | 270 pF – 4.7 nF   |                   |                   |
| HV11 (8.13 x 7.62 x 6.35)   | 1.2 nF – 0.15 µF   | 1.2 nF – 0.047 µF  | 560 pF – 2.7 nF   |                   |                   |
| HV12 (10.67 x 10.16 x 6.35) | 1.2 nF – 0.22 µF   | 1.2 nF – 0.018 µF  | 680 pF – 0.01 µF  |                   |                   |
| HV13 (13.21 x 12.7 x 7.62)  | 3.3 nF – 0.082 µF  | 3.3 nF – 0.047 µF  | 1.2 nF – 0.018 µF | 1.2 nF – 0.01 µF  |                   |
| HV14 (15.75 x 12.7 x 7.62)  | 6.8 nF – 0.12 µF   | 6.8 nF – 0.056 µF  | 2.7 nF – 0.027 µF | 2.7 nF – 0.012 µF | 470 pF – 0.012 µF |
| HV15 (18.29 x 17.78 x 7.62) | 0.01 µF – 0.22 µF  | 0.01 µF – 0.056 µF | 3.9 nF – 0.027 µF | 3.9 nF – 0.015 µF | 680 pF – 0.01 µF  |
| HV16 (20.83 x 17.78 x 8.89) | 0.015 µF – 0.47 µF | 0.015 µF – 0.47 µF | 6.8 nF – 0.047 µF | 6.8 nF – 0.022 µF | 1.2 nF – 0.012 µF |

## Industrial and Military Grade (cont.)

### VCR/VRR 200°C Radial, C0G and X7R Dielectric, 500 – 5,000 VDC

Capacitance Range: 10 pF to 1.2 µF • Temperature Range: -55°C to +200°C

[www.kemet.com/VCR-VRR](http://www.kemet.com/VCR-VRR)



| V                                  | C                                | R                  | 40                               | M                                                                        | 102                                        | K                               | W                                                                              | A                                                           |
|------------------------------------|----------------------------------|--------------------|----------------------------------|--------------------------------------------------------------------------|--------------------------------------------|---------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------|
| Series                             | Dielectric                       | Lead Configuration | Case Size                        | Rated Voltage (VDC)                                                      | Capacitance Code (pF)                      | Capacitance Tolerance           | Lead Finish                                                                    | Grade/ Test Level                                           |
| V = High Voltage Radial Capacitors | C = C0G (NP0)/BP<br>R = X7R (BX) | R = Radial         | 07<br>40<br>50<br>60<br>70<br>80 | L = 500<br>M = 1,000<br>T = 2,000<br>V = 3,000<br>W = 4,000<br>X = 5,000 | Two significant digits and number of zeros | J = ±5%<br>K = ±10%<br>M = ±20% | W = Solder Coated<br>Copper Clad Steel<br>G = Gold Plated<br>Copper Clad Steel | S = Standard<br>A = MIL-PRF-20, Group A Test<br>X = Special |

### VCR

| Case Size                 | Voltage          |                  |                |                |                |                |
|---------------------------|------------------|------------------|----------------|----------------|----------------|----------------|
|                           | 500              | 1,000            | 2,000          | 3,000          | 4,000          | 5,000          |
| 07 (7.62 x 7.62 x 3.81)   | 10 pF – 3.3 nF   | 10 pF – 6.8 nF   | 10 pF – 470 pF |                |                |                |
| 40 (8.89 x 10.16 x 6.98)  | 10 pF – 8.2 nF   | 10 pF – 3.3 nF   | 10 pF – 330 pF | 10 pF – 270 pF | 10 pF – 270 pF |                |
| 50 (13.2 x 12.7 x 7.62)   | 18 pF – 0.018 µF | 18 pF – 6.8 nF   | 18 pF – 1.5 nF | 18 pF – 1 nF   | 18 pF – 1 nF   | 18 pF – 680 pF |
| 60 (13.97 x 15.24 x 9.52) | 22 pF – 0.027 µF | 22 pF – 0.015 µF | 22 pF – 3.3 nF | 22 pF – 2.2 nF | 22 pF – 2.2 nF | 22 pF – 1.2 nF |
| 70 (16.51 x 17.78 x 9.52) | 27 pF – 0.033 µF | 27 pF – 0.027 µF | 27 pF – 4.7 nF | 27 pF – 2.7 nF | 27 pF – 2.7 nF | 27 pF – 2.2 nF |
| 80 (19.05 x 20.32 x 9.52) | 33 pF – 0.056 µF | 33 pF – 0.033 µF | 33 pF – 6.8 nF | 33 pF – 3.9 nF | 33 pF – 3.9 nF | 33 pF – 2.7 nF |

### VRR

| Case Size                 | Voltage           |                   |                   |                   |                   |                  |
|---------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|
|                           | 500               | 1,000             | 2,000             | 3,000             | 4,000             | 5,000            |
| 07 (7.62 x 7.62 x 3.81)   | 390 pF – 0.056 µF | 390 pF – 0.015 µF | 390 pF – 3.9 nF   |                   |                   |                  |
| 40 (8.89 x 10.16 x 6.98)  | 330 pF – 0.33 µF  | 330 pF – 0.1 µF   | 330 pF – 0.027 µF | 330 pF – 0.015 µF | 330 pF – 6.8 nF   |                  |
| 50 (13.2 x 12.7 x 7.62)   | 470 pF – 0.33 µF  | 470 pF – 0.1 µF   | 470 pF – 0.027 µF | 470 pF – 0.015 µF | 470 pF – 8.2 nF   | 470 pF – 2.7 nF  |
| 60 (13.97 x 15.24 x 9.52) | 560 pF – 0.68 µF  | 560 pF – 0.18 µF  | 560 pF – 0.056 µF | 560 pF – 0.033 µF | 560 pF – 0.018 µF | 560 pF – 6.8 nF  |
| 70 (16.51 x 17.78 x 9.52) | 820 pF – 1 µF     | 820 pF – 0.27 µF  | 820 pF – 0.082 µF | 820 pF – 0.047 µF | 820 pF – 0.027 µF | 820 pF – 0.01 µF |
| 80 (19.05 x 20.32 x 9.52) | 1 nF – 1.2 µF     | 1 nF – 0.39 µF    | 1 nF – 0.12 µF    | 1 nF – 0.056 µF   | 1 nF – 0.033 µF   | 1 nF – 0.015 µF  |

# **Film Capacitors**



# Film Capacitors – DC Film

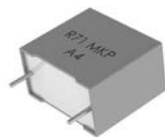
## Pulse and High Frequency

### Single Metallized Polyester

#### R71 Radial, SMPS PFC Applications, 420 – 1,000 VDC

Capacitance Range: 0.01 to 22  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/R71](http://www.kemet.com/R71)



| R71                      | M                                                     | F                                                        | 2100                                                                                                                     | AA                         | 00                               | J                                                 |
|--------------------------|-------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------|---------------------------------------------------|
| Series                   | Rated Voltage (VDC)                                   | Lead Spacing (mm)                                        | Capacitance Code (pF)                                                                                                    | Packaging                  | Internal Use                     | Capacitance Tolerance                             |
| Metallized Polypropylene | M = 420<br>X = 450<br>V = 520<br>P = 630<br>Q = 1,000 | F = 10.0<br>I = 15.0<br>N = 22.5<br>R = 27.5<br>W = 37.5 | The last three digits represent significant figures.<br>The first digit specifies the total number of zeros to be added. | See Ordering Options Table | 00<br>0X<br>10<br>20<br>30<br>40 | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ |

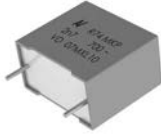
| Case Size               | Voltage (VDC/VAC)         |                           |                    |                           |
|-------------------------|---------------------------|---------------------------|--------------------|---------------------------|
|                         | 420/220                   | 520/250                   | 630/275            | 1,000/275                 |
| 10 – 13 x 11 x 5        | 150 nF                    | 100 nF                    | 33 nF – 47 nF      |                           |
| 10 – 13 x 12 x 6        | 220 nF                    | 150 nF                    | 68 nF – 100 nF     |                           |
| 10 – 13 x 9 x 4         | 10 nF – 100 nF            | 10 nF – 68 nF             | 10 nF – 22 nF      |                           |
| 15 – 18 x 11 x 5        | 100 nF – 220 nF           | 100 nF – 150 nF           | 10 nF – 100 nF     |                           |
| 15 – 18 x 12 x 13       | 680 nF                    | 470 nF                    | 330 nF             |                           |
| 15 – 18 x 12 x 6        | 330 nF                    | 220 nF                    | 150 nF             |                           |
| 15 – 18 x 12.5 x 9      | 470 nF                    | 330 nF                    | 220 nF – 330 nF    |                           |
| 15 – 18 x 13.5 x 7.5    | 470 nF                    | 330 nF                    | 220 nF             |                           |
| 15 – 18 x 14.5 x 8.5    | 680 nF                    | 470 nF                    | 330 nF             |                           |
| 15 – 18 x 16 x 10       | 1 $\mu$ F                 | 680 nF                    | 470 nF             |                           |
| 15 – 18 x 17.5 x 6      | 470 nF – 680 nF           | 220 nF – 330 nF           | 150 nF – 220 nF    |                           |
| 15 – 18 x 18.5 x 7.5    | 1 $\mu$ F                 | 470 nF                    | 330 nF – 470 nF    |                           |
| 15 – 18 x 19 x 11       | 1.5 $\mu$ F               | 1 $\mu$ F                 | 680 nF             |                           |
| 22.5 – 26.5 x 15 x 6    | 220 nF – 680 nF           | 220 nF – 470 nF           | 150 nF – 330 nF    |                           |
| 22.5 – 26.5 x 16 x 7    | 1 $\mu$ F                 | 680 nF                    | 470 nF             |                           |
| 22.5 – 26.5 x 17 x 8.5  | 1.5 $\mu$ F               |                           |                    |                           |
| 22.5 – 26.5 x 18.5 x 10 | 1.5 $\mu$ F – 2.2 $\mu$ F | 1 $\mu$ F                 | 680 nF – 1 $\mu$ F |                           |
| 22.5 – 26.5 x 20 x 11   | 2.2 $\mu$ F               | 1.5 $\mu$ F               | 1 $\mu$ F          |                           |
| 22.5 – 26.5 x 22 x 13   | 3.3 $\mu$ F               | 2.2 $\mu$ F               |                    |                           |
| 27.5 – 32 x 17 x 9      | 680 nF – 1 $\mu$ F        | 680 nF – 1 $\mu$ F        | 680 nF             | 220 nF – 560 nF           |
| 27.5 – 32 x 20 x 11     | 1.5 $\mu$ F               | 1 $\mu$ F – 1.5 $\mu$ F   | 1 $\mu$ F          | 330 nF – 820 nF           |
| 27.5 – 32 x 22 x 13     | 2.2 $\mu$ F               |                           | 1.5 $\mu$ F        | 470 nF – 1 $\mu$ F        |
| 27.5 – 32 x 25 x 13     | 3.3 $\mu$ F               | 2.2 $\mu$ F               |                    | 1.2 $\mu$ F               |
| 27.5 – 32 x 28 x 14     |                           | 2.2 $\mu$ F – 3.3 $\mu$ F | 2.2 $\mu$ F        | 680 nF – 1.8 $\mu$ F      |
| 27.5 – 32 x 33 x 18     | 4.7 $\mu$ F               | 3.3 $\mu$ F – 4.7 $\mu$ F | 3.3 $\mu$ F        | 1 $\mu$ F – 2.7 $\mu$ F   |
| 27.5 – 32 x 37 x 22     | 6.8 $\mu$ F               | 4.7 $\mu$ F – 6.8 $\mu$ F | 4.7 $\mu$ F        | 1.8 $\mu$ F – 3.9 $\mu$ F |
| 37.5 – 41.5 x 22 x 11   |                           | 2.2 $\mu$ F               | 1.5 $\mu$ F        | 680 nF – 1.5 $\mu$ F      |
| 37.5 – 41.5 x 24 x 13   | 3.3 $\mu$ F               | 3.3 $\mu$ F               | 2.2 $\mu$ F        | 820 nF – 1.8 $\mu$ F      |
| 37.5 – 41.5 x 28.5 x 16 | 4.7 $\mu$ F               | 3.3 $\mu$ F – 4.7 $\mu$ F | 3.3 $\mu$ F        | 1.2 $\mu$ F – 2.7 $\mu$ F |
| 37.5 – 41.5 x 32 x 19   | 6.8 $\mu$ F               | 6.8 $\mu$ F               | 4.7 $\mu$ F        | 1.8 $\mu$ F – 3.9 $\mu$ F |
| 37.5 – 41.5 x 40 x 20   | 10 $\mu$ F                | 6.8 $\mu$ F – 10 $\mu$ F  | 6.8 $\mu$ F        | 2.2 $\mu$ F – 4.7 $\mu$ F |
| 37.5 – 41.5 x 44 x 24   | 15 $\mu$ F                | 10 $\mu$ F – 15 $\mu$ F   | 10 $\mu$ F         | 2.7 $\mu$ F – 8.2 $\mu$ F |
| 37.5 – 41.5 x 45 x 30   | 22 $\mu$ F                | 15 $\mu$ F – 22 $\mu$ F   | 15 $\mu$ F         | 5.6 $\mu$ F – 10 $\mu$ F  |

## Single Metallized Polyester (cont.)

### R74 Radial, AC Applications, Automotive Grade, 250 – 900 VAC

Capacitance Range: 471 pF to 3.3  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/R74](http://www.kemet.com/R74)



| R74                      | 5                                                              | N                                                    | 2180                                                                                                                     | AA                         | 00             | J                             |
|--------------------------|----------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------|-------------------------------|
| Series                   | Rated Voltage (VAC)                                            | Lead Spacing (mm)                                    | Capacitance Code (pF)                                                                                                    | Packaging                  | Internal Use   | Capacitance Tolerance         |
| Metallized Polypropylene | L = 250<br>N = 400<br>5 = 500<br>6 = 600<br>7 = 700<br>9 = 900 | F = 10<br>I = 15<br>N = 22.5<br>R = 27.5<br>W = 37.5 | The last three digits represent significant figures.<br>The first digit specifies the total number of zeros to be added. | See Ordering Options Table | 00<br>30<br>60 | J = $\pm$ 5%<br>K = $\pm$ 10% |

| Case Size               | Voltage (VDC/VAC) |                           |                           |                  |                  |                 |
|-------------------------|-------------------|---------------------------|---------------------------|------------------|------------------|-----------------|
|                         | 630/250           | 1,300/400                 | 1,600/500                 | 2,000/600        | 2,000/700        | 2,200/900       |
| 10 – 13 x 11 x 5        | 15 nF – 18 nF     | 3.9 nF – 5.6 nF           | 2.2 nF – 2.7 nF           | 2.2 nF – 2.7 nF  | 2.2 nF – 2.7 nF  |                 |
| 10 – 13 x 12 x 6        | 22 nF – 27 nF     | 6.8 nF – 8.2 nF           | 3.3 nF – 8.2 nF           | 3.3 nF – 8.2 nF  | 3.3 nF – 5.6 nF  |                 |
| 10 – 13 x 9 x 4         | 10 nF – 12 nF     | 2.2 nF – 3.3 nF           | 1 nF – 1.8 nF             | 0.47 nF – 1.8 nF | 0.47 nF – 1.8 nF |                 |
| 15 – 18 x 11 x 5        | 15 nF – 33 nF     | 6.8 nF – 10 nF            | 1.5 nF – 5.6 nF           | 3.9 nF – 4.7 nF  | 1 nF – 3.3 nF    |                 |
| 15 – 18 x 12 x 13       | 82 nF – 100 nF    | 27 nF – 39 nF             | 15 nF – 22 nF             |                  | 10 nF – 12 nF    |                 |
| 15 – 18 x 12 x 6        | 39 nF – 47 nF     | 12 nF – 15 nF             | 6.8 nF – 10 nF            | 6.8 nF           | 3.9 nF – 5.6 nF  |                 |
| 15 – 18 x 12.5 x 9      | 68 nF             | 22 nF                     |                           |                  | 8.2 nF           |                 |
| 15 – 18 x 13.5 x 7.5    | 56 nF – 68 nF     | 18 nF – 22 nF             | 12 nF – 15 nF             |                  | 6.8 nF – 8.2 nF  |                 |
| 15 – 18 x 14.5 x 8.5    | 82 nF – 100 nF    | 27 nF – 33 nF             | 18 nF                     | 12 nF – 15 nF    | 10 nF            |                 |
| 15 – 18 x 16 x 10       | 120 nF            | 39 nF – 47 nF             | 22 nF – 27 nF             | 18 nF            | 12 nF – 15 nF    |                 |
| 15 – 18 x 19 x 11       | 150 nF            | 56 nF                     | 33 nF                     |                  | 18 nF            |                 |
| 15 – 18 x 10 x 4        |                   |                           | 1.5 nF – 4.7 nF           | 2.3 nF – 2.7 nF  | 0.47 nF – 2.2 nF |                 |
| 22.5 – 26.5 x 15 x 6    |                   | 39 nF                     | 18 nF – 22 nF             |                  | 8.2 nF – 15 nF   | 1 nF – 6.8 nF   |
| 22.5 – 26.5 x 16 x 7    |                   | 47 nF – 56 nF             | 27 nF – 33 nF             |                  | 18 nF            | 8.2 nF – 10 nF  |
| 22.5 – 26.5 x 17 x 8.5  |                   | 68 nF                     | 39 nF                     |                  | 22 nF – 27 nF    | 12 nF           |
| 22.5 – 26.5 x 18.5 x 10 |                   | 82 nF – 100 nF            | 47 nF – 56 nF             |                  | 33 nF – 39 nF    | 15 nF – 18 nF   |
| 22.5 – 26.5 x 20 x 11   |                   | 120 nF                    | 68 nF                     |                  | 47 nF            | 22 nF           |
| 22.5 – 26.5 x 22 x 13   |                   | 150 nF                    | 82 nF – 100 nF            |                  | 56 nF – 68 nF    | 27 nF – 33 nF   |
| 27.5 – 32 x 17 x 9      |                   | 150 nF – 180 nF           | 100 nF – 150 nF           |                  | 39 nF – 56 nF    | 22 nF – 27 nF   |
| 27.5 – 32 x 20 x 11     |                   | 220 nF – 270 nF           | 180 nF – 220 nF           |                  | 68 nF – 82 nF    | 33 nF – 39 nF   |
| 27.5 – 32 x 22 x 13     |                   | 330 nF – 390 nF           | 270 nF                    |                  | 100 nF – 120 nF  | 47 nF – 56 nF   |
| 27.5 – 32 x 28 x 14     |                   | 470 nF – 680 nF           | 330 nF – 470 nF           |                  | 150 nF – 180 nF  | 68 nF – 82 nF   |
| 27.5 – 32 x 33 x 18     |                   | 820 nF – 1 $\mu$ F        | 560 nF – 680 nF           |                  | 220 nF – 270 nF  | 100 nF – 150 nF |
| 27.5 – 32 x 37 x 22     |                   |                           | 820 nF – 1 $\mu$ F        |                  | 330 nF           |                 |
| 37.5 – 41.5 x 22 x 11   |                   | 470 nF                    | 330 nF                    |                  | 150 nF           | 68 nF           |
| 37.5 – 41.5 x 24 x 13   |                   | 560 nF – 680 nF           | 390 nF – 470 nF           |                  | 180 nF           | 82 nF – 100 nF  |
| 37.5 – 41.5 x 28.5 x 16 |                   | 820 nF – 1 $\mu$ F        | 560 nF – 680 nF           |                  | 220 nF – 270 nF  | 120 nF – 150 nF |
| 37.5 – 41.5 x 32 x 19   |                   | 1.2 $\mu$ F               | 820 nF – 1 $\mu$ F        |                  | 330 nF – 390 nF  | 180 nF – 220 nF |
| 37.5 – 41.5 x 40 x 20   |                   | 1.5 $\mu$ F – 1.8 $\mu$ F | 1.2 $\mu$ F – 1.5 $\mu$ F |                  | 470 nF – 560 nF  | 270 nF – 330 nF |
| 37.5 – 41.5 x 44 x 24   |                   | 2.2 $\mu$ F – 2.7 $\mu$ F | 1.8 $\mu$ F               |                  | 680 nF – 820 nF  | 390 nF – 470 nF |
| 37.5 – 41.5 x 45 x 30   |                   | 3.3 $\mu$ F               | 2.2 $\mu$ F               |                  | 1 $\mu$ F        |                 |

# Film Capacitors – DC Film

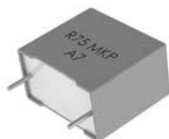
## Pulse and High Frequency

### Single Metallized Polypropylene

#### R75 Radial, DC and Pulse Applications, Automotive Grade, 160 – 2,000 VDC

Capacitance Range: 220 pF to 33  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/R75](http://www.kemet.com/R75)



| R75                      | P                                                                                            | N                                                               | 2820                                                                                                                     | AA                         | 30                                           | K                                              |
|--------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------|------------------------------------------------|
| Series                   | Rated Voltage (VDC)                                                                          | Lead Spacing (mm)                                               | Capacitance Code (pF)                                                                                                    | Packaging                  | Internal Use                                 | Capacitance Tolerance                          |
| Metallized Polypropylene | G = 160<br>I = 250<br>M = 400<br>P = 630<br>Q = 1,000<br>R = 1,250<br>T = 1,600<br>U = 2,000 | D = 7.5<br>F = 10<br>I = 15<br>N = 22.5<br>R = 27.5<br>W = 37.5 | The last three digits represent significant figures.<br>The first digit specifies the total number of zeros to be added. | See Ordering Options Table | 00<br>10<br>30<br>40<br>50<br>60<br>70<br>80 | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% |

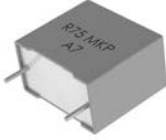
| Case Size            | Voltage (VDC/VAC) |                 |                 |                 |               |                 |               |
|----------------------|-------------------|-----------------|-----------------|-----------------|---------------|-----------------|---------------|
|                      | 160/70            | 160/90          | 250/140         | 250/160         | 400/200       | 400/220         | 630/220       |
| 7.5 – 10 x 10.5 x 5  | 120 nF – 150 nF   | 100 nF – 120 nF | 100 nF – 120 nF | 68 nF – 82 nF   | 33 nF – 47 nF | 27 nF – 33 nF   | 15 nF – 18 nF |
| 7.5 – 10 x 9 x 4     | 100 nF            | 68 nF – 82 nF   | 68 nF – 82 nF   | 27 nF – 56 nF   | 27 nF         | 10 nF – 22 nF   | 10 nF – 12 nF |
| 7.5 – 10.5 x 12 x 6  | 180 nF – 220 nF   | 150 nF – 180 nF | 150 nF – 180 nF | 100 nF – 120 nF | 56 nF – 68 nF | 39 nF – 47 nF   | 22 nF – 27 nF |
| 10 – 13 x 11 x 5     | 180 nF – 220 nF   | 120 nF – 150 nF | 120 nF – 150 nF | 82 nF – 100 nF  |               |                 |               |
| 10 – 13 x 12 x 6     | 270 nF – 330 nF   | 180 nF – 220 nF | 180 nF – 220 nF | 120 nF – 150 nF |               |                 |               |
| 10 – 13 x 9 x 4      | 120 nF – 150 nF   | 82 nF – 100 nF  | 82 nF – 100 nF  | 33 nF – 68 nF   |               |                 |               |
| 15 – 18 x 11 x 5     |                   | 180 nF – 220 nF |                 | 120 nF – 220 nF |               | 68 nF – 100 nF  |               |
| 15 – 18 x 12 x 13    |                   | 680 nF          |                 | 680 nF – 820 nF |               | 330 nF          |               |
| 15 – 18 x 12 x 6     |                   | 270 nF – 330 nF |                 | 270 nF – 330 nF |               | 120 nF – 150 nF |               |
| 15 – 18 x 12.5 x 9   |                   | 470 nF – 560 nF |                 | 390 nF – 560 nF |               | 220 nF – 270 nF |               |
| 15 – 18 x 13.5 x 7.5 |                   | 390 nF – 470 nF |                 | 390 nF – 560 nF |               | 180 nF – 220 nF |               |

## Single Metallized Polypropylene (cont.)

### R75 Radial, DC and Pulse Applications, Automotive Grade, 160 – 2,000 VDC (cont.)

Capacitance Range: 220 pF to 33  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/R75](http://www.kemet.com/R75)



| R75                      | P                                                                                            | N                                                               | 2820                                                                                                                  | AA                         | 30                                           | K                                              |
|--------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------|------------------------------------------------|
| Series                   | Rated Voltage (VDC)                                                                          | Lead Spacing (mm)                                               | Capacitance Code (pF)                                                                                                 | Packaging                  | Internal Use                                 | Capacitance Tolerance                          |
| Metallized Polypropylene | G = 160<br>I = 250<br>M = 400<br>P = 630<br>Q = 1,000<br>R = 1,250<br>T = 1,600<br>U = 2,000 | D = 7.5<br>F = 10<br>I = 15<br>N = 22.5<br>R = 27.5<br>W = 37.5 | The last three digits represent significant figures. The first digit specifies the total number of zeros to be added. | See Ordering Options Table | 00<br>10<br>30<br>40<br>50<br>60<br>70<br>80 | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% |

| Case Size               | Voltage (VDC/VAC)         |                           |                           |
|-------------------------|---------------------------|---------------------------|---------------------------|
|                         | 160/90                    | 250/160                   | 400/220                   |
| 15 – 18 x 14.5 x 8.5    | 560 nF – 680 nF           | 680 nF                    | 270 nF                    |
| 15 – 18 x 16 x 10       | 820 nF – 1 $\mu$ F        | 820 nF – 1 $\mu$ F        | 330 nF – 470 nF           |
| 15 – 18 x 19 x 11       |                           | 1.2 $\mu$ F               | 560 nF                    |
| 22.5 – 26.5 x 15 x 6    |                           | 390 nF – 680 nF           | 180 nF – 330 nF           |
| 22.5 – 26.5 x 16 x 7    | 820 nF – 1 $\mu$ F        | 820 nF – 1 $\mu$ F        | 390 nF – 470 nF           |
| 22.5 – 26.5 x 17 x 8.5  | 1.2 $\mu$ F               | 1.2 $\mu$ F               | 560 nF                    |
| 22.5 – 26.5 x 18.5 x 10 | 1.5 $\mu$ F – 1.8 $\mu$ F | 1.5 $\mu$ F – 1.8 $\mu$ F | 680 nF – 820 nF           |
| 22.5 – 26.5 x 20 x 11   |                           | 2.2 $\mu$ F               | 1 $\mu$ F                 |
| 22.5 – 26.5 x 22 x 13   |                           | 2.7 $\mu$ F – 3.3 $\mu$ F | 1.2 $\mu$ F – 1.5 $\mu$ F |
| 27.5 – 32 x 17 x 9      | 1.5 $\mu$ F – 1.8 $\mu$ F | 1 $\mu$ F – 1.8 $\mu$ F   | 560 nF – 820 nF           |
| 27.5 – 32 x 20 x 11     | 2.2 $\mu$ F – 2.7 $\mu$ F | 2.2 $\mu$ F – 2.7 $\mu$ F | 1 $\mu$ F – 1.2 $\mu$ F   |
| 27.5 – 32 x 22 x 13     | 3.3 $\mu$ F – 3.9 $\mu$ F | 3.3 $\mu$ F – 3.9 $\mu$ F | 1.5 $\mu$ F – 1.8 $\mu$ F |
| 27.5 – 32 x 25 x 13     | 4.7 $\mu$ F               | 4.7 $\mu$ F               | 2.2 $\mu$ F               |
| 27.5 – 32 x 28 x 14     | 5.6 $\mu$ F               | 5.6 $\mu$ F               | 2.7 $\mu$ F               |
| 27.5 – 32 x 33 x 18     | 6.8 $\mu$ F – 8.2 $\mu$ F | 6.8 $\mu$ F – 8.2 $\mu$ F | 3.3 $\mu$ F – 3.9 $\mu$ F |
| 27.5 – 32 x 37 x 22     | 10 $\mu$ F – 12 $\mu$ F   | 10 $\mu$ F – 12 $\mu$ F   | 4.7 $\mu$ F – 5.6 $\mu$ F |
| 37.5 – 41.5 x 22 x 11   | 3.3 $\mu$ F – 4.7 $\mu$ F | 3.3 $\mu$ F – 4.7 $\mu$ F | 1.2 $\mu$ F – 2.2 $\mu$ F |
| 37.5 – 41.5 x 24 x 13   | 5.6 $\mu$ F               | 5.6 $\mu$ F               | 2.7 $\mu$ F               |
| 37.5 – 41.5 x 28.5 x 16 | 6.8 $\mu$ F – 8.2 $\mu$ F | 6.8 $\mu$ F – 8.2 $\mu$ F | 3.3 $\mu$ F – 3.9 $\mu$ F |
| 37.5 – 41.5 x 32 x 19   | 10 $\mu$ F – 12 $\mu$ F   | 10 $\mu$ F – 12 $\mu$ F   | 4.7 $\mu$ F – 5.6 $\mu$ F |
| 37.5 – 41.5 x 40 x 20   | 15 $\mu$ F – 18 $\mu$ F   | 15 $\mu$ F – 18 $\mu$ F   | 6.8 $\mu$ F – 8.2 $\mu$ F |
| 37.5 – 41.5 x 44 x 24   | 22 $\mu$ F                | 22 $\mu$ F – 27 $\mu$ F   | 10 $\mu$ F                |
| 37.5 – 41.5 x 45 x 30   | 27 $\mu$ F – 33 $\mu$ F   | 33 $\mu$ F                | 12 $\mu$ F – 15 $\mu$ F   |

| Case Size           | Voltage (VDC/VAC) |                 |
|---------------------|-------------------|-----------------|
|                     | 630/250           | 1,000/400       |
| 7.5 – 10 x 10.5 x 5 | 10 nF – 12 nF     | 3.9 nF – 5.6 nF |
| 7.5 – 10 x 8 x 3    |                   | 0.22 nF – 1 nF  |
| 7.5 – 10 x 9 x 4    | 3.3 nF – 8.2 nF   | 1.2 nF – 3.3 nF |
| 7.5 – 10.5 x 12 x 6 | 15 nF – 18 nF     | 6.8 nF – 8.2 nF |

# Film Capacitors – DC Film

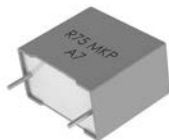
## Pulse and High Frequency

### Single Metallized Polypropylene (cont.)

#### R75 Radial, DC and Pulse Applications, Automotive Grade, 160 – 2,000 VDC (cont.)

Capacitance Range: 220 pF to 33  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/R75](http://www.kemet.com/R75)



| R75                      | P                                                                                            | N                                                               | 2820                                                                                                                     | AA                         | 30                                           | K                                              |
|--------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------|------------------------------------------------|
| Series                   | Rated Voltage (VDC)                                                                          | Lead Spacing (mm)                                               | Capacitance Code (pF)                                                                                                    | Packaging                  | Internal Use                                 | Capacitance Tolerance                          |
| Metallized Polypropylene | G = 160<br>I = 250<br>M = 400<br>P = 630<br>Q = 1,000<br>R = 1,250<br>T = 1,600<br>U = 2,000 | D = 7.5<br>F = 10<br>I = 15<br>N = 22.5<br>R = 27.5<br>W = 37.5 | The last three digits represent significant figures.<br>The first digit specifies the total number of zeros to be added. | See Ordering Options Table | 00<br>10<br>30<br>40<br>50<br>60<br>70<br>80 | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% |

| Case Size               | Voltage (VDC/VAC)         |                           |                           |                         |                    |
|-------------------------|---------------------------|---------------------------|---------------------------|-------------------------|--------------------|
|                         | 630/250                   | 1,000/250                 | 1,250/600                 | 1,600/650               | 2,000/700          |
| 10 – 13 x 11 x 5        | 15 nF – 18 nF             |                           |                           |                         |                    |
| 10 – 13 x 12 x 6        | 22 nF                     |                           |                           |                         |                    |
| 10 – 13 x 9 x 4         | 1 nF – 12 nF              |                           |                           |                         |                    |
| 15 – 18 x 11 x 5        | 27 nF – 56 nF             | 12 nF – 22 nF             | 8.2 nF – 10 nF            | 5.6 nF – 6.8 nF         | 3.9 nF – 4.7 nF    |
| 15 – 18 x 12 x 13       | 150 nF – 180 nF           | 68 nF                     | 27 nF – 33 nF             | 22 nF                   | 15 nF – 18 nF      |
| 15 – 18 x 12 x 6        | 68 nF – 82 nF             | 27 nF – 33 nF             | 12 nF – 15 nF             | 8.2 nF – 10 nF          | 5.6 nF – 6.8 nF    |
| 15 – 18 x 12.5 x 9      | 100 nF – 120 nF           | 47 nF – 56 nF             | 22 nF                     | 18 nF                   | 12 nF              |
| 15 – 18 x 13.5 x 7.5    | 100 nF – 120 nF           | 39 nF – 47 nF             | 18 nF – 22 nF             | 12 nF – 15 nF           | 8.2 nF – 10 nF     |
| 15 – 18 x 14.5 x 8.5    | 150 nF                    | 56 nF – 68 nF             | 27 nF                     | 18 nF                   | 12 nF – 15 nF      |
| 15 – 18 x 16 x 10       | 180 nF – 220 nF           | 82 nF                     | 33 nF – 39 nF             | 22 nF – 27 nF           | 18 nF              |
| 15 – 18 x 19 x 11       | 270 nF – 330 nF           | 100 nF                    | 47 nF – 56 nF             | 33 nF                   | 22 nF – 27 nF      |
| 15 – 18 x 10 x 4        |                           |                           |                           | 3.9 nF – 4.7 nF         | 1 nF – 3.3 nF      |
| 22.5 – 26.5 x 15 x 6    | 82 nF – 150 nF            | 47 nF – 68 nF             | 33 nF – 39 nF             | 27 nF                   | 4.7 nF – 22 nF     |
| 22.5 – 26.5 x 16 x 7    | 180 nF – 220 nF           | 82 nF – 100 nF            | 47 nF – 56 nF             | 33 nF – 39 nF           | 27 nF              |
| 22.5 – 26.5 x 17 x 8.5  | 270 nF                    | 120 nF                    | 68 nF                     | 47 nF                   | 33 nF              |
| 22.5 – 26.5 x 18.5 x 10 | 330 nF – 390 nF           | 150 nF – 180 nF           | 82 nF – 100 nF            | 56 nF – 68 nF           | 39 nF – 47 nF      |
| 22.5 – 26.5 x 20 x 11   | 470 nF – 560 nF           | 220 nF                    | 120 nF                    | 82 nF                   | 56 nF              |
| 22.5 – 26.5 x 22 x 13   | 680 nF                    |                           | 150 nF                    | 100 nF – 120 nF         | 68 nF              |
| 27.5 – 32 x 17 x 9      | 390 nF – 470 nF           | 150 nF – 180 nF           | 100 nF – 120 nF           | 68 nF – 82 nF           | 47 nF – 68 nF      |
| 27.5 – 32 x 20 x 11     | 560 nF – 680 nF           | 220 nF – 270 nF           | 150 nF – 180 nF           | 100 nF – 120 nF         | 82 nF – 100 nF     |
| 27.5 – 32 x 22 x 13     | 820 nF – 1 $\mu$ F        | 330 nF – 390 nF           | 220 nF                    | 150 nF                  | 120 nF             |
| 27.5 – 32 x 25 x 13     |                           | 470 nF                    | 270 nF                    | 180 nF – 220 nF         | 150 nF             |
| 27.5 – 32 x 28 x 14     | 1.2 $\mu$ F – 1.5 $\mu$ F | 560 nF                    | 330 nF                    |                         | 180 nF – 220 nF    |
| 27.5 – 32 x 33 x 18     | 1.8 $\mu$ F – 2.2 $\mu$ F | 680 nF – 1 $\mu$ F        | 390 nF – 560 nF           | 270 nF – 390 nF         | 220 nF – 330 nF    |
| 27.5 – 32 x 37 x 22     | 2.7 $\mu$ F – 3.3 $\mu$ F | 1.2 $\mu$ F – 1.5 $\mu$ F | 680 nF – 820 nF           | 470 nF – 560 nF         | 330 nF – 470 nF    |
| 37.5 – 41.5 x 22 x 11   | 680 nF – 1 $\mu$ F        | 270 nF – 470 nF           | 270 nF                    | 180 nF                  | 150 nF             |
| 37.5 – 41.5 x 24 x 13   | 1.2 $\mu$ F – 1.5 $\mu$ F | 560 nF – 680 nF           | 330 nF – 390 nF           | 220 nF – 270 nF         | 180 nF – 220 nF    |
| 37.5 – 41.5 x 28.5 x 16 | 1.8 $\mu$ F – 2.2 $\mu$ F | 820 nF – 1 $\mu$ F        | 470 nF – 560 nF           | 330 nF – 390 nF         | 270 nF – 330 nF    |
| 37.5 – 41.5 x 32 x 19   | 2.7 $\mu$ F – 3.3 $\mu$ F | 1.2 $\mu$ F – 1.5 $\mu$ F | 680 nF – 820 nF           | 470 nF – 560 nF         | 330 nF – 470 nF    |
| 37.5 – 41.5 x 40 x 20   | 3.9 $\mu$ F – 4.7 $\mu$ F | 1.8 $\mu$ F               | 1 $\mu$ F – 1.2 $\mu$ F   | 680 nF – 820 nF         | 560 nF – 680 nF    |
| 37.5 – 41.5 x 44 x 24   | 5.6 $\mu$ F               | 2.2 $\mu$ F – 2.7 $\mu$ F | 1.5 $\mu$ F – 1.8 $\mu$ F | 1 $\mu$ F – 1.2 $\mu$ F | 820 nF – 1 $\mu$ F |
| 37.5 – 41.5 x 45 x 30   | 6.8 $\mu$ F – 8.2 $\mu$ F | 3.3 $\mu$ F – 3.9 $\mu$ F | 2.2 $\mu$ F               | 1.5 $\mu$ F             |                    |

## Single Metallized Polypropylene (cont.)

**A70 Axial, 160 – 630 VDC**

Capacitance Range: 0.001 to 4.7  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/A70](http://www.kemet.com/A70)



| A70                      | G                                        | F                                                | 2220                                                                                                                  | AA                         | 00            | J                                              |
|--------------------------|------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------|---------------|------------------------------------------------|
| Series                   | Rated Voltage (VDC)                      | Length (mm)                                      | Capacitance Code (pF)                                                                                                 | Lead and Packaging Code    | Internal Use  | Capacitance Tolerance                          |
| Metallized Polypropylene | G = 160<br>I = 250<br>M = 400<br>P = 630 | F = 11<br>H = 14<br>K = 20.5<br>Q = 28<br>T = 33 | The last three digits represent significant figures. The first digit specifies the total number of zeros to be added. | See Ordering Options Table | 00 (Standard) | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% |

| Case Size  | Voltage (VDC/VAC) |               |               |                 |
|------------|-------------------|---------------|---------------|-----------------|
|            | 160/90            | 250/200       | 400/220       | 630/250         |
| 5 x 11     | 22 nF – 47 nF     | 10 nF – 15 nF | 6.8 nF        | 1 nF – 4.7 nF   |
| 5.5 x 14   | 68 nF – 100 nF    | 22 nF – 33 nF | 10 nF         | 6.8 nF          |
| 6 x 14     |                   | 47 nF         | 15 nF – 22 nF | 10 nF           |
| 6.5 x 14   | 150 nF            |               | 33 nF         |                 |
| 7 x 14     |                   | 68 nF         |               | 15 nF           |
| 7 x 20.5   | 330 nF            |               | 68 nF         |                 |
| 7.5 x 14   | 220 nF            |               |               |                 |
| 7.5 x 20.5 |                   | 150 nF        |               | 33 nF           |
| 8 x 14     |                   |               | 47 nF         |                 |
| 8 x 20.5   | 470 nF            |               | 100 nF        |                 |
| 8 x 28     | 680 nF            |               | 150 nF        |                 |
| 8.5 x 14   |                   | 100 nF        |               | 22 nF           |
| 8.5 x 20.5 |                   | 330 nF        |               | 47 nF           |
| 8.5 x 28   |                   |               |               | 68 nF           |
| 9 x 20.5   |                   | 220 nF        |               |                 |
| 9.5 x 28   | 1 $\mu$ F         |               | 220 nF        |                 |
| 10 x 28    |                   | 470 nF        |               | 100 nF          |
| 11 x 28    | 1.5 $\mu$ F       |               | 330 nF        |                 |
| 11.5 x 28  |                   | 680 nF        |               | 150 nF          |
| 12 x 33    | 2.2 $\mu$ F       |               |               |                 |
| 12.5 x 33  |                   | 1 $\mu$ F     |               | 220 nF – 680 nF |
| 13 x 28    |                   |               | 470 nF        |                 |
| 13.5 x 33  |                   |               | 680 nF        |                 |
| 14.5 x 33  | 3.3 $\mu$ F       |               |               |                 |
| 15 x 33    |                   | 1.5 $\mu$ F   |               |                 |
| 16.5 x 33  |                   |               | 1 $\mu$ F     |                 |
| 17 x 33    | 4.7 $\mu$ F       |               |               |                 |
| 18 x 33    |                   | 2.2 $\mu$ F   |               |                 |
| 20 x 33    |                   |               | 1.5 $\mu$ F   |                 |
| 21.5 x 33  |                   | 3.3 $\mu$ F   |               |                 |

# Film Capacitors – DC Film

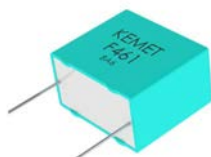
## Pulse and High Frequency

### Single Metallized Polypropylene (cont.)

#### F461 – 464 Halogen Free, 160 – 2,500 VDC

Capacitance Range: 0.001 to 56  $\mu\text{F}$  • Temperature Range: -55°C to +105°C

[www.kemet.com/F461](http://www.kemet.com/F461)



| F               | 46x                                                      | K                                                                        | E                   | 223                                                                                    | J                                                              | 160                                                                                                                    | C                          |
|-----------------|----------------------------------------------------------|--------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                                                   | Lead Spacing (mm)                                                        | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                                          | Rated Voltage (VDC)                                                                                                    | Packaging                  |
| F = Film        | Metallized Polypropylene<br>x = sections in construction | J = 5<br>K = 7.5<br>A = 10<br>B = 15<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>Other tolerances on request | 160 = 160<br>250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1000<br>1L2 = 1250<br>1K6 = 1600<br>2K0 = 2000<br>2K5 = 2500 | See Ordering Options Table |

#### F461

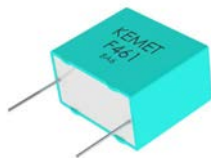
| Case Size               | Voltage (VDC/VAC)                     |                                       |                                       |                                     |
|-------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------------------|
|                         | 160/90                                | 250/160                               | 400/220                               | 630/250                             |
| 5 – 7.2 x 11 x 6        | 100 nF – 120 nF                       | 68 nF – 82 nF                         | 33 nF – 39 nF                         | 15 nF – 22 nF                       |
| 5 – 7.2 x 13 x 7.2      | 150 nF – 220 nF                       | 100 nF – 150 nF                       | 47 nF – 56 nF                         | 27 nF – 33 nF                       |
| 5 – 7.2 x 6.5 x 2.5     | 10 nF – 18 nF                         | 10 nF – 15 nF                         | 3.3 nF – 5.6 nF                       | 1.5 nF – 3.3 nF                     |
| 5 – 7.2 x 7.5 x 3.5     | 22 nF – 39 nF                         | 22 nF – 27 nF                         | 6.8 nF – 12 nF                        | 3.9 nF – 5.6 nF                     |
| 5 – 7.2 x 9.5 x 4.5     | 47 nF – 82 nF                         | 33 nF – 39 nF                         | 15 nF – 22 nF                         | 6.8 nF – 10 nF                      |
| 5 – 7.2 x 10 x 5        |                                       | 47 nF – 56 nF                         | 27 nF                                 | 12 nF                               |
| 7.5 – 10 x 10.5 x 5     | 100 nF – 180 nF                       | 68 nF – 100 nF                        | 27 nF – 47 nF                         | 12 nF – 22 nF                       |
| 7.5 – 10 x 6 x 2.5      | 15 nF – 22 nF                         | 10 nF – 12 nF                         | 3.3 nF – 4.7 nF                       | 1.5 nF – 2.2 nF                     |
| 7.5 – 10 x 8 x 3        | 27 nF – 56 nF                         | 15 nF – 33 nF                         | 5.6 nF – 12 nF                        | 2.7 nF – 6.8 nF                     |
| 7.5 – 10 x 8 x 4        | 68 nF – 82 nF                         | 39 nF – 56 nF                         | 15 nF – 22 nF                         | 8.2 nF – 10 nF                      |
| 7.5 – 10.5 x 12 x 6     | 220 nF – 270 nF                       | 120 nF – 150 nF                       | 56 nF – 68 nF                         | 27 nF – 39 nF                       |
| 10 – 13 x 11 x 5        | 180 nF – 270 nF                       | 120 nF – 220 nF                       | 47 nF – 100 nF                        | 27 nF – 39 nF                       |
| 10 – 13 x 12 x 6        | 330 nF – 470 nF                       | 270 nF                                | 120 nF                                | 47 nF – 68 nF                       |
| 10 – 13 x 9 x 4         | 100 nF – 150 nF                       | 68 nF – 100 nF                        | 22 nF – 39 nF                         | 10 nF – 22 nF                       |
| 15 – 18 x 10 x 4        | 150 nF – 270 nF                       | 100 nF – 180 nF                       | 47 nF – 68 nF                         | 22 nF – 39 nF                       |
| 15 – 18 x 11 x 5        | 330 nF – 390 nF                       | 220 nF – 270 nF                       | 82 nF – 100 nF                        | 47 nF – 63 nF                       |
| 15 – 18 x 12.5 x 5.5    | 470 nF – 560 nF                       |                                       | 120 nF – 150 nF                       | 68 nF – 82 nF                       |
| 15 – 18 x 13.5 x 7.5    | 680 nF – 1 $\mu\text{F}$              | 390 nF – 560 nF                       | 180 nF – 270 nF                       | 100 nF – 150 nF                     |
| 15 – 18 x 14.5 x 8.5    | 1.2 $\mu\text{F}$                     | 680 nF – 820 nF                       |                                       | 180 nF                              |
| 15 – 18 x 16 x 10       | 1.5 $\mu\text{F}$                     | 1 $\mu\text{F}$                       | 390 nF – 470 nF                       | 220 nF                              |
| 15 – 18 x 19 x 11       | 2.2 $\mu\text{F}$ – 2.7 $\mu\text{F}$ | 1.2 $\mu\text{F}$ – 1.8 $\mu\text{F}$ | 560 nF – 820 nF                       | 270 nF – 390 nF                     |
| 15 – 18 x 12 x 6        |                                       | 330 nF                                |                                       |                                     |
| 15 – 18 x 17.5 x 6      |                                       |                                       | 330 nF                                |                                     |
| 22.5 – 26 x 14.5 x 6    | 1 $\mu\text{F}$ – 1.2 $\mu\text{F}$   | 470 nF – 680 nF                       | 220 nF – 330 nF                       | 100 nF – 150 nF                     |
| 22.5 – 26 x 16 x 7      | 1.5 $\mu\text{F}$ – 1.8 $\mu\text{F}$ | 820 nF – 1 $\mu\text{F}$              | 390 nF – 470 nF                       | 180 nF – 220 nF                     |
| 22.5 – 26 x 17 x 8.5    | 2.2 $\mu\text{F}$                     |                                       |                                       | 330 nF                              |
| 22.5 – 26 x 18.5 x 9    | 2.7 $\mu\text{F}$ – 3.3 $\mu\text{F}$ | 1.5 $\mu\text{F}$ – 1.8 $\mu\text{F}$ | 680 nF – 820 nF                       | 390 nF – 470 nF                     |
| 22.5 – 26 x 20 x 11     | 3.9 $\mu\text{F}$                     |                                       | 1 $\mu\text{F}$ – 1.2 $\mu\text{F}$   | 560 nF                              |
| 22.5 – 26 x 22 x 13     | 4.7 $\mu\text{F}$ – 5.6 $\mu\text{F}$ | 2.7 $\mu\text{F}$ – 3.3 $\mu\text{F}$ | 1.5 $\mu\text{F}$                     | 680 nF – 820 nF                     |
| 22.5 – 26 x 24.5 x 15.5 | 6.8 $\mu\text{F}$ – 8.2 $\mu\text{F}$ | 3.9 $\mu\text{F}$ – 5.6 $\mu\text{F}$ | 1.8 $\mu\text{F}$ – 2.2 $\mu\text{F}$ | 1 $\mu\text{F}$ – 1.2 $\mu\text{F}$ |

## Single Metallized Polypropylene (cont.)

### F461 – 464 Halogen Free, 160 – 2,500 VDC (cont.)

Capacitance Range: 0.001 to 56  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/F461](http://www.kemet.com/F461)



| F               | 46x                                                      | K                                                                        | E                   | 223                                                                                    | J                                                              | 160                                                                                                                    | C                          |
|-----------------|----------------------------------------------------------|--------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                                                   | Lead Spacing (mm)                                                        | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                                          | Rated Voltage (VDC)                                                                                                    | Packaging                  |
| F = Film        | Metallized Polypropylene<br>x = sections in construction | J = 5<br>K = 7.5<br>A = 10<br>B = 15<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>Other tolerances on request | 160 = 160<br>250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1000<br>1L2 = 1250<br>1K6 = 1600<br>2K0 = 2000<br>2K5 = 2500 | See Ordering Options Table |

### F461 (cont.)

| Case Size               | Voltage (VDC/VAC)         |                           |                           |                           |
|-------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|                         | 160/90                    | 250/160                   | 400/220                   | 630/250                   |
| 22.5 – 26 x 16 x 8      |                           | 1.2 $\mu$ F               | 560 nF                    | 270 nF                    |
| 22.5 – 26 x 18.5 x 10   |                           | 2.2 $\mu$ F               |                           |                           |
| 27.5 – 31.5 x 17 x 9    | 2.2 $\mu$ F – 3.3 $\mu$ F | 1.5 $\mu$ F – 1.8 $\mu$ F | 560 nF – 820 nF           | 330 nF – 470 nF           |
| 27.5 – 31.5 x 20 x 11   | 3.9 $\mu$ F – 4.7 $\mu$ F | 2.2 $\mu$ F – 3.3 $\mu$ F | 1 $\mu$ F – 1.5 $\mu$ F   | 560 nF – 820 nF           |
| 27.5 – 31.5 x 25 x 13   | 5.6 $\mu$ F – 8.2 $\mu$ F | 3.9 $\mu$ F – 4.7 $\mu$ F | 1.8 $\mu$ F – 2.2 $\mu$ F | 1 $\mu$ F – 1.2 $\mu$ F   |
| 27.5 – 31.5 x 28 x 17.5 | 10 $\mu$ F – 12 $\mu$ F   | 6.8 $\mu$ F               | 3.3 $\mu$ F               | 1.8 $\mu$ F               |
| 27.5 – 31.5 x 37 x 22   | 15 $\mu$ F – 22 $\mu$ F   | 10 $\mu$ F – 15 $\mu$ F   | 4.7 $\mu$ F – 6.8 $\mu$ F | 2.7 $\mu$ F – 3.9 $\mu$ F |
| 27.5 – 31.5 x 28 x 14   |                           | 5.6 $\mu$ F               | 2.7 $\mu$ F               | 1.5 $\mu$ F               |
| 27.5 – 31.5 x 29 x 19   |                           | 8.2 $\mu$ F               | 3.9 $\mu$ F               | 2.2 $\mu$ F               |
| 37.5 – 41 x 22 x 11     | 6.8 $\mu$ F – 8.2 $\mu$ F | 3.3 $\mu$ F – 4.7 $\mu$ F | 1.5 $\mu$ F – 2.2 $\mu$ F | 680 nF – 1.2 $\mu$ F      |
| 37.5 – 41 x 24 x 13     | 10 $\mu$ F                | 5.6 $\mu$ F – 6.8 $\mu$ F | 2.7 $\mu$ F – 3.3 $\mu$ F | 1.5 $\mu$ F – 1.8 $\mu$ F |
| 37.5 – 41 x 26 x 15     | 12 $\mu$ F                | 8.2 $\mu$ F               | 3.9 $\mu$ F               | 2.2 $\mu$ F               |
| 37.5 – 41 x 28.5 x 16   | 15 $\mu$ F                | 10 $\mu$ F                | 4.7 $\mu$ F               | 2.7 $\mu$ F               |
| 37.5 – 41 x 32 x 19     | 18 $\mu$ F – 22 $\mu$ F   | 12 $\mu$ F – 15 $\mu$ F   | 5.6 $\mu$ F – 6.8 $\mu$ F | 3.3 $\mu$ F               |
| 37.5 – 41 x 38 x 21     | 27 $\mu$ F                | 18 $\mu$ F                | 8.2 $\mu$ F               | 3.9 $\mu$ F – 4.7 $\mu$ F |
| 37.5 – 41 x 44 x 24     | 33 $\mu$ F – 39 $\mu$ F   | 22 $\mu$ F – 27 $\mu$ F   | 10 $\mu$ F – 12 $\mu$ F   | 5.6 $\mu$ F – 6.8 $\mu$ F |
| 37.5 – 41 x 45 x 30     | 47 $\mu$ F – 56 $\mu$ F   | 33 $\mu$ F – 39 $\mu$ F   | 15 $\mu$ F – 18 $\mu$ F   | 8.2 $\mu$ F               |

### F462

| Case Size            | Voltage (VDC/VAC) |                 |                 |
|----------------------|-------------------|-----------------|-----------------|
|                      | 1,000/300         | 1,250/400       | 1,600/500       |
| 10 – 13 x 11 x 5     | 8.2 nF – 12 nF    | 6.8 nF – 12 nF  | 2.7 nF – 4.7 nF |
| 10 – 13 x 12 x 6     | 15 nF – 22 nF     | 15 nF           | 5.6 nF – 6.8 nF |
| 10 – 13 x 9 x 4      | 4.7 nF – 6.8 nF   | 3.3 nF – 5.6 nF | 1 nF – 2.2 nF   |
| 15 – 18 x 10 x 4     | 10 nF – 15 nF     | 6.8 nF – 10 nF  | 3.3 nF – 5.6 nF |
| 15 – 18 x 11 x 5     | 18 nF – 22 nF     | 12 nF – 15 nF   | 6.8 nF – 8.2 nF |
| 15 – 18 x 12.5 x 5.5 | 27 nF – 33 nF     | 18 nF – 22 nF   | 10 nF           |
| 15 – 18 x 13.5 x 7.5 | 39 nF – 56 nF     | 27 nF – 47 nF   | 15 nF – 22 nF   |
| 15 – 18 x 14.5 x 8.5 | 68 nF             | 56 nF           | 27 nF           |

# Film Capacitors – DC Film

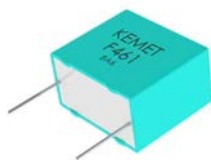
## Pulse and High Frequency

### Single Metallized Polypropylene (cont.)

#### F461 – 464 Halogen Free, 160 – 2,500 VDC (cont.)

Capacitance Range: 0.001 to 56  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/F461](http://www.kemet.com/F461)



| F               | 46x                                                      | K                                                                        | E                   | 223                                                                                    | J                                                              | 160                                                                                                                    | C                          |
|-----------------|----------------------------------------------------------|--------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                                                   | Lead Spacing (mm)                                                        | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                                          | Rated Voltage (VDC)                                                                                                    | Packaging                  |
| F = Film        | Metallized Polypropylene<br>x = sections in construction | J = 5<br>K = 7.5<br>A = 10<br>B = 15<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>Other tolerances on request | 160 = 160<br>250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1000<br>1L2 = 1250<br>1K6 = 1600<br>2K0 = 2000<br>2K5 = 2500 | See Ordering Options Table |

#### F462 (cont.)

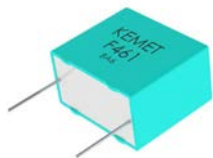
| Case Size               | Voltage (VDC/VAC)         |                           |                         |
|-------------------------|---------------------------|---------------------------|-------------------------|
|                         | 1,000/300                 | 1,250/400                 | 1,600/500               |
| 15 – 18 x 16 x 10       | 82 nF – 100 nF            | 68 nF                     | 33 nF                   |
| 15 – 18 x 19 x 11       | 120 nF – 150 nF           | 82 nF – 120 nF            | 39 nF – 56 nF           |
| 15 – 18 x 12 x 6        |                           |                           | 12 nF                   |
| 22.5 – 26 x 14.5 x 6    | 47 nF – 68 nF             | 33 nF – 56 nF             | 15 nF – 27 nF           |
| 22.5 – 26 x 16 x 7      | 82 nF – 100 nF            | 68 nF – 82 nF             | 33 nF – 39 nF           |
| 22.5 – 26 x 16 x 8      | 120 nF                    |                           | 47 nF                   |
| 22.5 – 26 x 18.5 x 10   | 180 nF – 220 nF           |                           | 68 nF                   |
| 22.5 – 26 x 18.5 x 9    | 150 nF                    | 120 nF – 150 nF           | 56 nF                   |
| 22.5 – 26 x 22 x 13     | 270 nF – 330 nF           | 220 nF                    | 120 nF                  |
| 22.5 – 26 x 24.5 x 15.5 | 390 nF – 560 nF           | 270 nF – 390 nF           | 150 nF – 220 nF         |
| 22.5 – 26 x 17 x 8.5    |                           | 100 nF                    |                         |
| 22.5 – 26 x 20 x 11     |                           | 180 nF                    | 82 nF – 100 nF          |
| 27.5 – 31.5 x 17 x 9    | 150 nF – 220 nF           | 100 nF – 150 nF           | 47 nF – 82 nF           |
| 27.5 – 31.5 x 20 x 11   | 270 nF – 330 nF           | 180 nF – 220 nF           | 100 nF – 120 nF         |
| 27.5 – 31.5 x 25 x 13   | 390 nF – 470 nF           | 270 nF – 390 nF           | 150 nF – 180 nF         |
| 27.5 – 31.5 x 28 x 14   | 560 nF – 680 nF           | 470 nF                    | 220 nF                  |
| 27.5 – 31.5 x 28 x 17.5 | 820 nF                    | 560 nF                    | 270 nF – 330 nF         |
| 27.5 – 31.5 x 37 x 22   | 1 $\mu$ F – 1.5 $\mu$ F   | 820 nF – 1.2 $\mu$ F      | 470 nF – 680 nF         |
| 27.5 – 31.5 x 29 x 19   |                           | 680 nF                    | 390 nF                  |
| 37.5 – 41 x 22 x 11     | 330 nF – 560 nF           | 220 nF – 390 nF           | 150 nF – 220 nF         |
| 37.5 – 41 x 24 x 13     | 680 nF                    | 470 nF – 560 nF           | 270 nF                  |
| 37.5 – 41 x 26 x 15     | 820 nF                    | 680 nF                    | 330 nF                  |
| 37.5 – 41 x 28.5 x 16   | 1 $\mu$ F                 | 820 nF                    | 390 nF – 470 nF         |
| 37.5 – 41 x 32 x 19     | 1.2 $\mu$ F – 1.5 $\mu$ F | 1 $\mu$ F                 | 560 nF                  |
| 37.5 – 41 x 38 x 21     | 1.8 $\mu$ F – 2.2 $\mu$ F | 1.2 $\mu$ F – 1.5 $\mu$ F | 680 nF – 820 nF         |
| 37.5 – 41 x 44 x 24     | 2.7 $\mu$ F               | 1.8 $\mu$ F               | 1 $\mu$ F – 1.2 $\mu$ F |
| 37.5 – 41 x 45 x 30     | 3.3 $\mu$ F – 3.9 $\mu$ F | 2.2 $\mu$ F – 2.7 $\mu$ F | 1.5 $\mu$ F             |

## Single Metallized Polypropylene (cont.)

### F461 – 464 Halogen Free, 160 – 2,500 VDC (cont.)

Capacitance Range: 0.001 to 56  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/F461](http://www.kemet.com/F461)



| F               | 46x                                                      | K                                                                        | E                   | 223                                                                                    | J                                                              | 160                                                                                                                    | C                          |
|-----------------|----------------------------------------------------------|--------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                                                   | Lead Spacing (mm)                                                        | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                                          | Rated Voltage (VDC)                                                                                                    | Packaging                  |
| F = Film        | Metallized Polypropylene<br>x = sections in construction | J = 5<br>K = 7.5<br>A = 10<br>B = 15<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>Other tolerances on request | 160 = 160<br>250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1000<br>1L2 = 1250<br>1K6 = 1600<br>2K0 = 2000<br>2K5 = 2500 | See Ordering Options Table |

### F463

| Case Size               | Voltage (VDC/VAC) |                 |                 |
|-------------------------|-------------------|-----------------|-----------------|
|                         | 1,250/500         | 1,600/650       | 2,000/700       |
| 10 – 13 x 11 x 5        |                   |                 | 2.7 nF – 4.7 nF |
| 10 – 13 x 12 x 6        |                   |                 | 5.6 nF          |
| 10 – 13 x 9 x 4         |                   |                 | 1 nF – 2.2 nF   |
| 15 – 18 x 10 x 4        | 4.7 nF – 6.8 nF   | 3.3 nF – 4.7 nF | 1 nF – 2.2 nF   |
| 15 – 18 x 11 x 5        | 8.2 nF – 10 nF    | 5.6 nF – 6.8 nF | 2.7 nF – 3.9 nF |
| 15 – 18 x 12 x 6        | 15 nF             | 10 nF           |                 |
| 15 – 18 x 12.5 x 5.5    | 12 nF             | 8.2 nF          | 4.7 nF – 5.6 nF |
| 15 – 18 x 13.5 x 7.5    | 18 nF – 27 nF     | 12 nF – 15 nF   | 6.8 nF – 10 nF  |
| 15 – 18 x 14.5 x 8.5    | 33 nF             | 18 nF – 22 nF   | 12 nF           |
| 15 – 18 x 16 x 10       | 39 nF – 47 nF     | 27 nF           | 15 nF           |
| 15 – 18 x 19 x 11       | 56 nF – 68 nF     | 33 nF – 47 nF   | 18 nF – 27 nF   |
| 22.5 – 26 x 14.5 x 6    | 22 nF – 39 nF     | 15 nF – 27 nF   | 10 nF – 12 nF   |
| 22.5 – 26 x 16 x 7      | 47 nF – 56 nF     | 33 nF – 39 nF   | 15 nF – 18 nF   |
| 22.5 – 26 x 17 x 8.5    | 68 nF             | 47 nF           | 27 nF           |
| 22.5 – 26 x 18.5 x 10   | 100 nF            | 68 nF           | 33 nF – 39 nF   |
| 22.5 – 26 x 18.5 x 9    | 82 nF             | 56 nF           |                 |
| 22.5 – 26 x 20 x 11     | 120 nF            | 82 nF           | 47 nF           |
| 22.5 – 26 x 22 x 13     | 150 nF – 180 nF   | 100 nF – 120 nF | 56 nF – 68 nF   |
| 22.5 – 26 x 24.5 x 15.5 | 220 nF – 270 nF   | 150 nF – 180 nF | 82 nF – 100 nF  |
| 22.5 – 26 x 16 x 8      |                   |                 | 22 nF           |
| 27.5 – 31.5 x 17 x 9    | 68 nF – 120 nF    | 47 nF – 82 nF   | 22 nF – 39 nF   |
| 27.5 – 31.5 x 20 x 11   | 150 nF – 180 nF   | 100 nF – 120 nF | 47 nF – 68 nF   |
| 27.5 – 31.5 x 25 x 13   | 220 nF – 270 nF   | 150 nF – 180 nF | 82 nF – 100 nF  |
| 27.5 – 31.5 x 28 x 14   | 330 nF            | 220 nF          | 120 nF          |
| 27.5 – 31.5 x 28 x 17.5 | 390 nF – 470 nF   | 270 nF          | 150 nF          |
| 27.5 – 31.5 x 37 x 22   | 560 nF – 820 nF   | 390 nF – 560 nF | 220 nF – 330 nF |
| 27.5 – 31.5 x 29 x 19   |                   | 330 nF          | 180 nF          |
| 37.5 – 41 x 22 x 11     | 220 nF – 330 nF   | 150 nF – 220 nF | 68 nF – 120 nF  |
| 37.5 – 41 x 24 x 13     | 390 nF            | 270 nF          | 150 nF          |

# Film Capacitors – DC Film

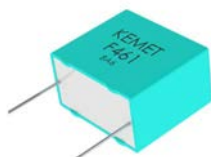
## Pulse and High Frequency

### Single Metallized Polypropylene (cont.)

#### F461 – 464 Halogen Free, 160 – 2,500 VDC (cont.)

Capacitance Range: 0.001 to 56  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/F461](http://www.kemet.com/F461)



| F               | 46x                                                      | K                                                                        | E                   | 223                                                                                    | J                                                              | 160                                                                                                                    | C                          |
|-----------------|----------------------------------------------------------|--------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                                                   | Lead Spacing (mm)                                                        | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                                          | Rated Voltage (VDC)                                                                                                    | Packaging                  |
| F = Film        | Metallized Polypropylene<br>x = sections in construction | J = 5<br>K = 7.5<br>A = 10<br>B = 15<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>Other tolerances on request | 160 = 160<br>250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1000<br>1L2 = 1250<br>1K6 = 1600<br>2K0 = 2000<br>2K5 = 2500 | See Ordering Options Table |

#### F463 (cont.)

| Case Size             | Voltage (VDC/VAC)         |                         |                 |
|-----------------------|---------------------------|-------------------------|-----------------|
|                       | 1,250/500                 | 1,600/650               | 2,000/700       |
| 37.5 – 41 x 26 x 15   | 470 nF                    | 330 nF                  | 180 nF          |
| 37.5 – 41 x 28.5 x 16 | 560 nF – 680 nF           | 390 nF                  | 220 nF          |
| 37.5 – 41 x 32 x 19   | 820 nF                    | 470 nF – 560 nF         | 270 nF – 330 nF |
| 37.5 – 41 x 38 x 21   | 1 $\mu$ F – 1.2 $\mu$ F   | 680 nF – 820 nF         | 390 nF – 470 nF |
| 37.5 – 41 x 44 x 24   | 1.5 $\mu$ F               | 1 $\mu$ F – 1.2 $\mu$ F | 560 nF          |
| 37.5 – 41 x 45 x 30   | 1.8 $\mu$ F – 2.2 $\mu$ F | 1.5 $\mu$ F             | 680 nF – 820 nF |

#### F464

| Case Size               | Voltage (VDC/VAC) |
|-------------------------|-------------------|
|                         | 2,500/900         |
| 15 – 18 x 10 x 4        | 1 nF – 2.2 nF     |
| 15 – 18 x 11 x 5        | 2.7 nF – 3.3 nF   |
| 15 – 18 x 12.5 x 5.5    | 3.9 nF – 4.7 nF   |
| 15 – 18 x 13.5 x 7.5    | 5.6 nF – 8.2 nF   |
| 15 – 18 x 14.5 x 8.5    | 10 nF             |
| 15 – 18 x 16 x 10       | 12 nF – 15 nF     |
| 15 – 18 x 19 x 11       | 18 nF – 22 nF     |
| 22.5 – 26 x 14.5 x 6    | 4.7 nF – 8.2 nF   |
| 22.5 – 26 x 16 x 7      | 10 nF – 12 nF     |
| 22.5 – 26 x 17 x 8.5    | 15 nF             |
| 22.5 – 26 x 18.5 x 9    | 18 nF – 22 nF     |
| 22.5 – 26 x 20 x 11     | 27 nF             |
| 22.5 – 26 x 22 x 13     | 33 nF             |
| 22.5 – 26 x 24.5 x 15.5 | 39 nF – 56 nF     |
| 27.5 – 31.5 x 17 x 9    | 15 nF – 27 nF     |

| Case Size               | Voltage (VDC/VAC) |
|-------------------------|-------------------|
|                         | 2,500/900         |
| 27.5 – 31.5 x 20 x 11   | 33 nF – 39 nF     |
| 27.5 – 31.5 x 25 x 13   | 47 nF – 68 nF     |
| 27.5 – 31.5 x 28 x 14   | 82 nF             |
| 27.5 – 31.5 x 28 x 17.5 | 100 nF            |
| 27.5 – 31.5 x 29 x 19   | 120 nF            |
| 27.5 – 31.5 x 37 x 22   | 150 nF – 180 nF   |
| 37.5 – 41 x 22 x 11     | 47 nF – 68 nF     |
| 37.5 – 41 x 24 x 13     | 82 nF – 100 nF    |
| 37.5 – 41 x 26 x 15     | 120 nF            |
| 37.5 – 41 x 28.5 x 16   | 150 nF            |
| 37.5 – 41 x 32 x 19     | 180 nF – 220 nF   |
| 37.5 – 41 x 38 x 21     | 270 nF            |
| 37.5 – 41 x 44 x 24     | 330 nF – 390 nF   |
| 37.5 – 41 x 45 x 30     | 470 nF – 560 nF   |

## Double Metallized Polypropylene

R76 Radial, DC and Pulse Applications, Automotive Grade, 250 – 2,000 VDC

Capacitance Range: 100 pF to 15 µF • Temperature Range: -55°C to +105°C

[www.kemet.com/R76](http://www.kemet.com/R76)



| R76                             | I                                                                    | D                                                               | 1680                                                                                                                  | SE                         | 30                                           | K                               |
|---------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------|---------------------------------|
| Series                          | Rated Voltage (VDC)                                                  | Lead Spacing (mm)                                               | Capacitance Code (pF)                                                                                                 | Packaging                  | Internal Use                                 | Capacitance Tolerance           |
| Double Metallized Polypropylene | I = 250<br>M = 400<br>P = 630<br>Q = 1,000<br>T = 1,600<br>U = 2,000 | D = 7.5<br>F = 10<br>I = 15<br>N = 22.5<br>R = 27.5<br>W = 37.5 | The last three digits represent significant figures. The first digit specifies the total number of zeros to be added. | See Ordering Options Table | 00<br>10<br>30<br>40<br>50<br>60<br>70<br>80 | H = 2.5%<br>J = ±5%<br>K = ±10% |

| Case Size               | Voltage (VDC/VAC) |                 |                 |                  |                 |                   |                  |                 |                  |
|-------------------------|-------------------|-----------------|-----------------|------------------|-----------------|-------------------|------------------|-----------------|------------------|
|                         | 250/160           | 250/180         | 400/250         | 630/250          | 630/400         | 1,000/400         | 1,000/600        | 1,600/650       | 2,000/700        |
| 7.5 – 10 x 10.5 x 5     | 27 nF – 33 nF     | 27 nF – 33 nF   | 15 nF – 18 nF   | 6.8 nF – 8.2 nF  |                 | 1.5 nF – 2.2 nF   |                  |                 |                  |
| 7.5 – 10 x 8 x 3        | 6.8 nF – 10 nF    | 6.8 nF – 10 nF  | 2.7 nF – 5.6 nF | 0.68 nF – 2.2 nF |                 | 0.22 nF – 0.56 nF |                  |                 |                  |
| 7.5 – 10 x 9 x 4        | 12 nF – 22 nF     | 12 nF – 22 nF   | 6.8 nF – 12 nF  | 2.7 nF – 5.6 nF  |                 | 0.68 nF – 1.2 nF  |                  |                 |                  |
| 7.5 – 10.5 x 12 x 6     | 39 nF – 47 nF     | 39 nF – 47 nF   | 22 nF – 27 nF   | 10 nF – 12 nF    |                 | 2.7 nF – 3.3 nF   |                  |                 |                  |
| 10 – 13 x 11 x 5        | 47 nF – 56 nF     | 47 nF – 56 nF   | 27 nF – 33 nF   |                  | 10 nF – 12 nF   |                   | 3.9 nF – 4.7 nF  |                 |                  |
| 10 – 13 x 12 x 6        | 68 nF – 82 nF     | 68 nF – 82 nF   | 39 nF – 47 nF   |                  | 15 nF – 18 nF   |                   | 5.6 nF – 6.8 nF  |                 |                  |
| 10 – 13 x 9 x 4         | 27 nF – 39 nF     | 27 nF – 39 nF   | 10 nF – 22 nF   |                  | 3.9 nF – 8.2 nF |                   | 0.47 nF – 3.3 nF |                 |                  |
| 15 – 18 x 10 x 4        |                   |                 |                 |                  |                 |                   | 8.2 nF – 10 nF   | 3.3 nF – 5.6 nF | 0.1 nF – 2.7 nF  |
| 15 – 18 x 11 x 5        | 68 nF – 100 nF    | 68 nF – 100 nF  | 33 nF – 56 nF   |                  | 12 nF – 27 nF   |                   | 8.2 nF – 18 nF   | 3.3 nF – 10 nF  | 0.22 nF – 4.7 nF |
| 15 – 18 x 12 x 13       | 330 nF            | 330 nF          | 150 nF – 180 nF |                  | 82 nF           |                   | 33 nF            | 22 nF           | 10 nF            |
| 15 – 18 x 12 x 6        | 120 nF – 150 nF   | 120 nF – 150 nF | 68 nF – 82 nF   |                  | 33 nF – 39 nF   |                   | 22 nF            | 12 nF – 15 nF   | 5.6 nF – 8.2 nF  |
| 15 – 18 x 12.5 x 9      | 180 nF – 270 nF   | 180 nF – 270 nF | 100 nF – 120 nF |                  | 47 nF – 68 nF   |                   | 22 nF – 27 nF    | 18 nF           |                  |
| 15 – 18 x 13.5 x 7.5    | 180 nF – 220 nF   | 180 nF – 220 nF | 100 nF – 120 nF |                  | 47 nF – 56 nF   |                   | 27 nF – 33 nF    | 18 nF – 22 nF   | 10 nF            |
| 15 – 18 x 14.5 x 8.5    | 270 nF            | 270 nF          | 150 nF          |                  | 68 nF – 82 nF   |                   | 39 nF – 47 nF    | 27 nF – 33 nF   | 12 nF – 15 nF    |
| 15 – 18 x 16 x 10       | 330 nF – 390 nF   | 330 nF – 390 nF | 180 nF – 220 nF |                  | 100 nF          |                   |                  |                 |                  |
| 15 – 18 x 19 x 11       | 470 nF            | 470 nF          | 270 nF          |                  | 120 nF          |                   |                  |                 |                  |
| 22.5 – 26.5 x 15 x 6    | 220 nF – 330 nF   | 220 nF – 330 nF | 120 nF – 180 nF |                  | 47 nF – 100 nF  |                   | 27 nF – 39 nF    | 15 nF – 33 nF   | 1 nF – 18 nF     |
| 22.5 – 26.5 x 16 x 7    | 390 nF – 470 nF   | 390 nF – 470 nF | 220 nF          |                  | 120 nF          |                   | 47 nF – 56 nF    | 39 nF – 47 nF   | 22 nF – 27 nF    |
| 22.5 – 26.5 x 17 x 8.5  | 560 nF            | 560 nF          | 270 nF – 330 nF |                  | 150 nF – 180 nF |                   | 68 nF            | 56 nF           | 33 nF            |
| 22.5 – 26.5 x 18.5 x 10 | 680 nF – 820 nF   | 680 nF – 820 nF | 390 nF – 470 nF |                  | 220 nF          |                   | 82 nF – 100 nF   | 68 nF – 82 nF   | 39 nF – 47 nF    |
| 22.5 – 26.5 x 20 x 11   | 1 µF              | 1 µF            | 560 nF          |                  | 270 nF – 330 nF |                   | 120 nF           | 100 nF          | 56 nF            |
| 22.5 – 26.5 x 22 x 13   | 1.2 µF            | 1.2 µF          | 680 nF          |                  | 390 nF          |                   | 150 nF           |                 |                  |

# Film Capacitors – DC Film

## Pulse and High Frequency

### Double Metallized Polypropylene (cont.)

#### R76 Radial, DC and Pulse Applications, Automotive Grade, 250 – 2,000 VDC (cont.)

Capacitance Range: 100 pF to 15  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/R76](http://www.kemet.com/R76)



| R76                             | I                                                                    | D                                                               | 1680                                                                                                                     | SE                         | 30                                           | K                                           |
|---------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------|---------------------------------------------|
| Series                          | Rated Voltage (VDC)                                                  | Lead Spacing (mm)                                               | Capacitance Code (pF)                                                                                                    | Packaging                  | Internal Use                                 | Capacitance Tolerance                       |
| Double Metallized Polypropylene | I = 250<br>M = 400<br>P = 630<br>Q = 1,000<br>T = 1,600<br>U = 2,000 | D = 7.5<br>F = 10<br>I = 15<br>N = 22.5<br>R = 27.5<br>W = 37.5 | The last three digits represent significant figures.<br>The first digit specifies the total number of zeros to be added. | See Ordering Options Table | 00<br>10<br>30<br>40<br>50<br>60<br>70<br>80 | H = 2.5%<br>J = $\pm 5\%$<br>K = $\pm 10\%$ |

| Case Size               | Voltage (VDC/VAC)         |                           |                           |                           |                           |                    |                 |
|-------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--------------------|-----------------|
|                         | 250/160                   | 250/180                   | 400/250                   | 630/400                   | 1,000/600                 | 1,600/650          | 2,000/700       |
| 27.5 – 32 x 17 x 9      | 820 nF                    | 820 nF                    | 390 nF – 470 nF           | 150 nF – 270 nF           | 100 nF – 120 nF           | 39 nF – 68 nF      | 22 nF – 33 nF   |
| 27.5 – 32 x 20 x 11     | 1 $\mu$ F – 1.2 $\mu$ F   | 1 $\mu$ F – 1.2 $\mu$ F   | 560 nF – 680 nF           | 330 nF – 390 nF           | 150 nF                    | 82 nF – 100 nF     | 39 nF – 47 nF   |
| 27.5 – 32 x 22 x 13     | 1.5 $\mu$ F               | 1.5 $\mu$ F               | 820 nF – 1 $\mu$ F        | 470 nF – 560 nF           | 180 nF – 220 nF           | 120 nF             | 56 nF – 68 nF   |
| 27.5 – 32 x 25 x 13     |                           | 1.8 $\mu$ F               |                           | 680 nF                    | 270 nF                    | 150 nF             | 82 nF           |
| 27.5 – 32 x 28 x 14     | 2.2 $\mu$ F               | 2.2 $\mu$ F               | 1.2 $\mu$ F               | 820 nF                    | 330 nF                    | 180 nF             | 100 nF          |
| 27.5 – 32 x 33 x 18     | 2.7 $\mu$ F – 3.9 $\mu$ F | 2.7 $\mu$ F – 3.9 $\mu$ F | 1.5 $\mu$ F – 1.8 $\mu$ F | 1 $\mu$ F – 1.2 $\mu$ F   | 390 nF – 470 nF           | 220 nF – 330 nF    | 120 nF – 150 nF |
| 27.5 – 32 x 37 x 22     | 4.7 $\mu$ F – 5.6 $\mu$ F | 4.7 $\mu$ F – 5.6 $\mu$ F | 2.2 $\mu$ F – 2.7 $\mu$ F | 1.5 $\mu$ F – 1.8 $\mu$ F | 560 nF – 680 nF           | 390 nF – 470 nF    | 180 nF – 220 nF |
| 37.5 – 41.5 x 22 x 11   | 1.2 $\mu$ F – 1.8 $\mu$ F | 1.2 $\mu$ F – 1.8 $\mu$ F | 1 $\mu$ F                 | 330 nF – 680 nF           | 180 nF – 220 nF           | 82 nF – 150 nF     | 33 nF – 82 nF   |
| 37.5 – 41.5 x 24 x 13   | 2.2 $\mu$ F               | 2.2 $\mu$ F               | 1.2 $\mu$ F – 1.5 $\mu$ F | 820 nF                    | 270 nF – 330 nF           | 180 nF – 270 nF    | 100 nF – 120 nF |
| 37.5 – 41.5 x 28.5 x 16 | 3.3 $\mu$ F – 3.9 $\mu$ F | 2.7 $\mu$ F – 3.9 $\mu$ F | 1.8 $\mu$ F               | 1 $\mu$ F – 1.5 $\mu$ F   | 390 nF – 560 nF           | 330 nF – 390 nF    | 150 nF – 180 nF |
| 37.5 – 41.5 x 32 x 19   | 4.7 $\mu$ F               | 4.7 $\mu$ F               | 2.2 $\mu$ F – 3.3 $\mu$ F | 1.8 $\mu$ F               | 680 nF                    | 470 nF             | 220 nF          |
| 37.5 – 41.5 x 40 x 20   | 6.8 $\mu$ F               | 5.6 $\mu$ F – 6.8 $\mu$ F | 3.9 $\mu$ F – 4.7 $\mu$ F | 2.2 $\mu$ F – 2.7 $\mu$ F | 820 nF – 1 $\mu$ F        | 560 nF – 680 nF    | 270 nF – 330 nF |
| 37.5 – 41.5 x 44 x 24   | 10 $\mu$ F                | 8.2 $\mu$ F – 10 $\mu$ F  | 5.6 $\mu$ F               | 3.3 $\mu$ F               | 1.2 $\mu$ F – 1.5 $\mu$ F | 820 nF – 1 $\mu$ F | 390 nF – 470 nF |
| 37.5 – 41.5 x 45 x 30   | 12 $\mu$ F                | 12 $\mu$ F                | 6.8 $\mu$ F – 8.2 $\mu$ F | 3.9 $\mu$ F – 4.7 $\mu$ F | 1.8 $\mu$ F – 2.2 $\mu$ F | 1.2 $\mu$ F        | 560 nF – 680 nF |

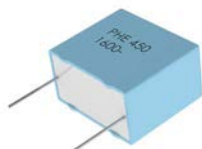
## Double Metallized Polypropylene (cont.)

### PHE450 Radial, 250 – 3,000 VDC

Capacitance Range: 0.00033 to 10  $\mu\text{F}$  • Temperature Range: -55°C to +105°C

[www.kemet.com/PHE450](http://www.kemet.com/PHE450)

### Legacy Part Number System



| PHE450                   | P                                                                                         | B                                                                   | 5180                                                                                                        | J                                                                                                                     | B04                 | R06                        |
|--------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------|
| Series                   | Rated Voltage (VDC)                                                                       | Lead Spacing (mm)                                                   | Capacitance Code (pF)                                                                                       | Capacitance Tolerance                                                                                                 | Optional Box Code   | Packaging                  |
| Metallized Polypropylene | H = 250<br>K = 400<br>M = 630<br>P = 1000<br>R = 1600<br>S = 2000<br>T = 2500<br>X = 3000 | K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | The last three digits represent significant figures. First digit specifies the number of zeros to be added. | J = $\pm 5\%$<br>On request:<br>F = $\pm 1\%$<br>G = $\pm 2\%$<br>H = $\pm 2.5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | See Dimension Table | See Ordering Options Table |

### New KEMET Part Number System

| F               | 450                      | B                                                                   | D                   | 183                                                                                    | J                                                                                                                     | 1K0                                                                                                       | C                          |
|-----------------|--------------------------|---------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                   | Lead Spacing (mm)                                                   | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                                                                                                 | Rated Voltage (VDC)                                                                                       | Packaging                  |
| F = Film        | Metallized Polypropylene | K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm 5\%$<br>On request:<br>F = $\pm 1\%$<br>G = $\pm 2\%$<br>H = $\pm 2.5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | 250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1000<br>1K6 = 1600<br>2K0 = 2000<br>2K5 = 2500<br>3K0 = 3000 | See Ordering Options Table |

| Case Size               | Voltage (VDC/VAC)                     |                 |                  |                 |                  |                 |
|-------------------------|---------------------------------------|-----------------|------------------|-----------------|------------------|-----------------|
|                         | 250/180                               | 400/250         | 630/300          | 630/400         | 1,000/375        | 1,000/600       |
| 7.5 – 10 x 8 x 4        | 0.33 nF – 22 nF                       | 0.33 nF – 12 nF | 0.39 nF – 8.2 nF |                 | 0.33 nF – 2.2 nF | 2.7 nF – 3.9 nF |
| 7.5 – 10 x 11 x 5       | 27 nF – 56 nF                         | 15 nF – 33 nF   | 10 nF – 18 nF    |                 |                  | 4.7 nF – 8.2 nF |
| 7.5 – 10.5 x 12 x 6     | 68 nF                                 | 39 nF – 47 nF   | 22 nF            |                 |                  | 10 nF – 12 nF   |
| 10 – 13 x 10.5 x 4.5    | 56 nF – 68 nF                         | 33 nF           | 18 nF – 22 nF    |                 |                  | 8.2 nF – 10 nF  |
| 10 – 13 x 11 x 5        | 82 nF                                 | 39 nF           | 27 nF            |                 |                  | 12 nF           |
| 10 – 13 x 12 x 6        | 100 nF – 120 nF                       | 47 nF – 56 nF   | 33 nF – 39 nF    |                 |                  | 15 nF – 18 nF   |
| 10 – 13 x 9 x 4         | 1 nF – 47 nF                          | 1 nF – 27 nF    | 1 nF – 15 nF     |                 |                  | 1 nF – 6.8 nF   |
| 15 – 18 x 10.5 x 5.5    | 47 nF – 120 nF                        | 33 nF – 68 nF   |                  | 10 nF – 33 nF   |                  | 3.9 nF – 22 nF  |
| 15 – 18 x 12.5 x 5.5    | 150 nF                                | 82 nF           |                  | 39 nF           |                  | 27 nF           |
| 15 – 18 x 12.5 x 6.5    | 180 nF                                | 100 nF          |                  | 47 nF – 56 nF   |                  | 33 nF           |
| 15 – 18 x 14.5 x 7.5    | 220 nF – 270 nF                       | 120 nF – 150 nF |                  | 68 nF           |                  | 39 nF – 47 nF   |
| 15 – 18 x 15 x 8        | 330 nF                                | 180 nF          |                  | 82 nF           |                  | 56 nF           |
| 15 – 18 x 16 x 8.5      | 390 nF                                |                 |                  | 100 nF          |                  | 68 nF           |
| 15 – 18 x 17.5 x 9.5    | 470 nF                                | 220 nF – 270 nF |                  | 120 nF – 150 nF |                  | 82 nF           |
| 15 – 18 x 19 x 11       |                                       |                 |                  |                 |                  | 100 nF – 120 nF |
| 22.5 – 26 x 14.5 x 6.5  | 180 nF – 330 nF                       | 120 nF – 180 nF |                  | 33 nF – 100 nF  |                  | 22 nF – 82 nF   |
| 22.5 – 26 x 16 x 8      |                                       |                 |                  |                 |                  | 120 nF          |
| 22.5 – 26 x 16.5 x 7    | 390 nF – 470 nF                       | 220 nF – 270 nF |                  | 120 nF – 150 nF |                  | 100 nF          |
| 22.5 – 26 x 18.5 x 9    | 560 nF – 680 nF                       | 330 nF – 390 nF |                  | 180 nF – 220 nF |                  | 150 nF          |
| 22.5 – 26 x 19 x 10.5   | 820 nF                                | 470 nF          |                  |                 |                  | 180 nF          |
| 22.5 – 26 x 21.5 x 11   | 1 $\mu\text{F}$                       | 560 nF          |                  | 270 nF – 330 nF |                  | 220 nF          |
| 22.5 – 26 x 23 x 13.5   | 1.2 $\mu\text{F}$ – 1.5 $\mu\text{F}$ | 680 nF – 820 nF |                  | 390 nF – 470 nF |                  | 270 nF – 330 nF |
| 22.5 – 26 x 24.5 x 15.5 | 1.8 $\mu\text{F}$                     | 1 $\mu\text{F}$ |                  | 560 nF          |                  | 390 nF          |

# Film Capacitors – DC Film

## Pulse and High Frequency

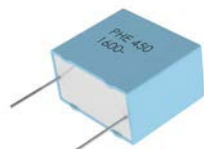
### Double Metallized Polypropylene (cont.)

#### PHE450 Radial, 250 – 3,000 VDC (cont.)

Capacitance Range: 0.00033 to 10  $\mu\text{F}$  • Temperature Range: -55°C to +105°C

[www.kemet.com/PHE450](http://www.kemet.com/PHE450)

#### Legacy Part Number System



| PHE450                   | P                                                                                         | B                                                                   | 5180                                                                                                        | J                                                                                                                     | B04                 | R06                        |
|--------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------|
| Series                   | Rated Voltage (VDC)                                                                       | Lead Spacing (mm)                                                   | Capacitance Code (pF)                                                                                       | Capacitance Tolerance                                                                                                 | Optional Box Code   | Packaging                  |
| Metallized Polypropylene | H = 250<br>K = 400<br>M = 630<br>P = 1000<br>R = 1600<br>S = 2000<br>T = 2500<br>X = 3000 | K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | The last three digits represent significant figures. First digit specifies the number of zeros to be added. | J = $\pm 5\%$<br>On request:<br>F = $\pm 1\%$<br>G = $\pm 2\%$<br>H = $\pm 2.5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | See Dimension Table | See Ordering Options Table |

#### New KEMET Part Number System

| F               | 450                      | B                                                                   | D                   | 183                                                                                    | J                                                                                                                     | 1K0                                                                                                       | C                          |
|-----------------|--------------------------|---------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                   | Lead Spacing (mm)                                                   | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                                                                                                 | Rated Voltage (VDC)                                                                                       | Packaging                  |
| F = Film        | Metallized Polypropylene | K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm 5\%$<br>On request:<br>F = $\pm 1\%$<br>G = $\pm 2\%$<br>H = $\pm 2.5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | 250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1000<br>1K6 = 1600<br>2K0 = 2000<br>2K5 = 2500<br>3K0 = 3000 | See Ordering Options Table |

| Case Size                 | Voltage (VDC/VAC)                     |                                       |                                       |                                       |
|---------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|                           | 250/180                               | 400/250                               | 630/400                               | 1,000/600                             |
| 27.5 – 26 x 14.5 x 6.5    | 180 nF                                |                                       |                                       |                                       |
| 27.5 – 31.5 x 12.5 x 21   | 1.2 $\mu\text{F}$                     | 680 nF                                | 390 nF                                | 220 nF                                |
| 27.5 – 31.5 x 16 x 27.5   | 2.2 $\mu\text{F}$                     | 1.5 $\mu\text{F}$                     | 820 nF                                | 470 nF                                |
| 27.5 – 31.5 x 19 x 31     | 3.9 $\mu\text{F}$                     | 2.2 $\mu\text{F}$                     | 1.2 $\mu\text{F}$                     | 680 nF                                |
| 27.5 – 31.5 x 20.5 x 10.5 | 820 nF – 1.2 $\mu\text{F}$            | 470 nF – 680 nF                       | 220 nF – 390 nF                       | 150 nF – 270 nF                       |
| 27.5 – 31.5 x 22.5 x 11.5 | 1.5 $\mu\text{F}$                     | 820 nF                                | 470 nF                                | 330 nF                                |
| 27.5 – 31.5 x 23 x 13.5   | 1.8 $\mu\text{F}$                     | 1 $\mu\text{F}$                       | 560 nF                                | 390 nF                                |
| 27.5 – 31.5 x 24.5 x 14.5 | 2.2 $\mu\text{F}$                     | 1.2 $\mu\text{F}$                     | 680 nF                                | 470 nF                                |
| 27.5 – 31.5 x 28 x 17.5   | 2.7 $\mu\text{F}$                     | 1.5 $\mu\text{F}$                     | 820 nF – 1 $\mu\text{F}$              | 560 nF – 680 nF                       |
| 27.5 – 31.5 x 29 x 19     | 3.3 $\mu\text{F}$                     | 1.8 $\mu\text{F}$                     |                                       | 820 nF                                |
| 27.5 – 31.5 x 30 x 21     | 3.9 $\mu\text{F}$                     | 2.2 $\mu\text{F}$                     | 1.2 $\mu\text{F}$                     | 1 $\mu\text{F}$                       |
| 37.5 – 41 x 24 x 13       | 1.8 $\mu\text{F}$ – 2.7 $\mu\text{F}$ | 1 $\mu\text{F}$ – 1.5 $\mu\text{F}$   | 560 nF – 820 nF                       | 330 nF – 560 nF                       |
| 37.5 – 41 x 26 x 15       | 3.3 $\mu\text{F}$                     | 1.8 $\mu\text{F}$                     | 1 $\mu\text{F}$ – 1.2 $\mu\text{F}$   | 680 nF                                |
| 37.5 – 41 x 32 x 16.5     | 3.9 $\mu\text{F}$ – 4.7 $\mu\text{F}$ | 2.2 $\mu\text{F}$ – 2.7 $\mu\text{F}$ | 1.5 $\mu\text{F}$                     | 820 nF – 1 $\mu\text{F}$              |
| 37.5 – 41 x 36 x 19       | 5.6 $\mu\text{F}$                     | 3.3 $\mu\text{F}$ – 3.9 $\mu\text{F}$ | 1.8 $\mu\text{F}$ – 2.2 $\mu\text{F}$ | 1.2 $\mu\text{F}$ – 1.5 $\mu\text{F}$ |
| 37.5 – 41 x 38 x 21       | 6.8 $\mu\text{F}$                     | 4.7 $\mu\text{F}$                     | 2.7 $\mu\text{F}$                     | 1.8 $\mu\text{F}$                     |

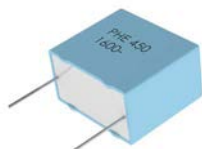
## Double Metallized Polypropylene (cont.)

### PHE450 Radial, 250 – 3,000 VDC (cont.)

Capacitance Range: 0.00033 to 10  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/PHE450](http://www.kemet.com/PHE450)

### Legacy Part Number System



| PHE450                   | P                                                                                         | B                                                                   | 5180                                                                                                        | J                                                                                                               | B04                 | R06                        |
|--------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------|----------------------------|
| Series                   | Rated Voltage (VDC)                                                                       | Lead Spacing (mm)                                                   | Capacitance Code (pF)                                                                                       | Capacitance Tolerance                                                                                           | Optional Box Code   | Packaging                  |
| Metallized Polypropylene | H = 250<br>K = 400<br>M = 630<br>P = 1000<br>R = 1600<br>S = 2000<br>T = 2500<br>X = 3000 | K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | The last three digits represent significant figures. First digit specifies the number of zeros to be added. | J = $\pm$ 5%<br>On request:<br>F = $\pm$ 1%<br>G = $\pm$ 2%<br>H = $\pm$ 2.5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | See Dimension Table | See Ordering Options Table |

### New KEMET Part Number System

| F               | 450                      | B                                                                   | D                   | 183                                                                                    | J                                                                                                               | 1K0                                                                                                       | C                          |
|-----------------|--------------------------|---------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                   | Lead Spacing (mm)                                                   | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                                                                                           | Rated Voltage (VDC)                                                                                       | Packaging                  |
| F = Film        | Metallized Polypropylene | K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm$ 5%<br>On request:<br>F = $\pm$ 1%<br>G = $\pm$ 2%<br>H = $\pm$ 2.5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | 250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1000<br>1K6 = 1600<br>2K0 = 2000<br>2K5 = 2500<br>3K0 = 3000 | See Ordering Options Table |

| Case Size               | Voltage (VDC/VAC) |                |                 |                 |
|-------------------------|-------------------|----------------|-----------------|-----------------|
|                         | 1,600/650         | 2,000/700      | 2,500/900       | 3,000/1,000     |
| 15 – 18 x 10.5 x 5.5    | 2.7 nF – 12 nF    | 1 nF – 6.8 nF  | 1 nF – 1.8 nF   | 1 nF – 1.2 nF   |
| 15 – 18 x 12.5 x 5.5    | 15 nF             | 8.2 nF         | 2.2 nF          | 1.5 nF – 1.8 nF |
| 15 – 18 x 12.5 x 6.5    | 18 nF – 22 nF     | 10 nF          | 2.7 nF          | 2.2 nF          |
| 15 – 18 x 14.5 x 7.5    | 27 nF             | 12 nF – 15 nF  | 3.3 nF – 3.9 nF | 2.7 nF          |
| 15 – 18 x 15 x 8        | 33 nF             | 18 nF          | 4.7 nF          | 3.3 nF          |
| 15 – 18 x 16 x 8.5      | 39 nF             | 22 nF          | 5.6 nF          | 3.9 nF          |
| 15 – 18 x 17.5 x 9.5    | 47 nF – 56 nF     | 27 nF          | 6.8 nF – 8.2 nF | 4.7 nF – 5.6 nF |
| 15 – 18 x 19 x 11       |                   |                | 10 nF           | 6.8 nF          |
| 22.5 – 26 x 14.5 x 6.5  | 10 nF – 39 nF     | 3.3 nF – 22 nF | 4.7 nF – 8.2 nF | 4.7 nF – 5.6 nF |
| 22.5 – 26 x 16 x 8      |                   | 39 nF          | 12 nF           | 8.2 nF          |
| 22.5 – 26 x 16.5 x 7    | 47 nF – 56 nF     | 27 nF – 33 nF  | 10 nF           | 6.8 nF          |
| 22.5 – 26 x 18.5 x 9    | 68 nF – 82 nF     | 47 nF          | 15 nF – 18 nF   | 10 nF           |
| 22.5 – 26 x 19 x 10.5   | 100 nF            | 56 nF          | 22 nF           | 12 nF           |
| 22.5 – 26 x 21.5 x 11   | 120 nF            | 68 nF – 82 nF  | 27 nF           | 15 nF – 18 nF   |
| 22.5 – 26 x 23 x 13.5   | 150 nF – 180 nF   | 100 nF         | 33 nF – 39 nF   | 22 nF           |
| 22.5 – 26 x 24.5 x 15.5 | 220 nF            | 120 nF         | 47 nF           | 27 nF – 33 nF   |

# Film Capacitors – DC Film

## Pulse and High Frequency

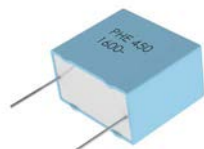
### Double Metallized Polypropylene (cont.)

#### PHE450 Radial, 250 – 3,000 VDC (cont.)

Capacitance Range: 0.00033 to 10 µF • Temperature Range: -55°C to +105°C

[www.kemet.com/PHE450](http://www.kemet.com/PHE450)

#### Legacy Part Number System



| PHE450                   | P                                                                                         | B                                                                   | 5180                                                                                                        | J                                                                                 | B04                 | R06                        |
|--------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------|----------------------------|
| Series                   | Rated Voltage (VDC)                                                                       | Lead Spacing (mm)                                                   | Capacitance Code (pF)                                                                                       | Capacitance Tolerance                                                             | Optional Box Code   | Packaging                  |
| Metallized Polypropylene | H = 250<br>K = 400<br>M = 630<br>P = 1000<br>R = 1600<br>S = 2000<br>T = 2500<br>X = 3000 | K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | The last three digits represent significant figures. First digit specifies the number of zeros to be added. | J = ±5%<br>On request:<br>F = ±1%<br>G = ±2%<br>H = ±2.5%<br>K = ±10%<br>M = ±20% | See Dimension Table | See Ordering Options Table |

#### New KEMET Part Number System

| F               | 450                      | B                                                                   | D                   | 183                                                                                    | J                                                                                 | 1K0                                                                                                       | C                          |
|-----------------|--------------------------|---------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                   | Lead Spacing (mm)                                                   | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                                                             | Rated Voltage (VDC)                                                                                       | Packaging                  |
| F = Film        | Metallized Polypropylene | K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = ±5%<br>On request:<br>F = ±1%<br>G = ±2%<br>H = ±2.5%<br>K = ±10%<br>M = ±20% | 250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1000<br>1K6 = 1600<br>2K0 = 2000<br>2K5 = 2500<br>3K0 = 3000 | See Ordering Options Table |

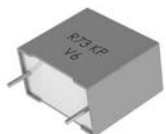
| Case Size                 | Voltage (VDC/VAC) |                 |                 |
|---------------------------|-------------------|-----------------|-----------------|
|                           | 1,600/650         | 2,000/700       | 2,500/900       |
| 27.5 – 26 x 14.5 x 6.5    |                   |                 |                 |
| 27.5 – 31.5 x 12.5 x 21   | 100 nF            | 56 nF           |                 |
| 27.5 – 31.5 x 16 x 27.5   | 220 nF            | 120 nF          |                 |
| 27.5 – 31.5 x 19 x 31     | 330 nF            | 180 nF          |                 |
| 27.5 – 31.5 x 20.5 x 10.5 | 82 nF – 120 nF    | 47 nF – 82 nF   | 27 nF – 33 nF   |
| 27.5 – 31.5 x 22.5 x 11.5 | 150 nF            | 100 nF          | 39 nF           |
| 27.5 – 31.5 x 23 x 13.5   | 180 nF            | 120 nF          | 47 nF – 56 nF   |
| 27.5 – 31.5 x 24.5 x 14.5 | 220 nF            | 150 nF          | 68 nF           |
| 27.5 – 31.5 x 28 x 17.5   | 270 nF            | 180 nF          | 27 nF           |
| 27.5 – 31.5 x 29 x 19     | 330 nF            | 220 nF          | 100 nF          |
| 27.5 – 31.5 x 30 x 21     | 390 nF            | 270 nF          | 120 nF          |
| 37.5 – 41 x 24 x 13       | 180 nF – 270 nF   | 100 nF – 180 nF | 68 nF – 82 nF   |
| 37.5 – 41 x 26 x 15       | 330 nF            | 220 nF          | 100 nF – 120 nF |
| 37.5 – 41 x 32 x 16.5     | 390 nF – 560 nF   | 270 nF – 330 nF | 150 nF          |
| 37.5 – 41 x 36 x 19       | 680 nF            | 390 nF – 470 nF | 180 nF – 220 nF |
| 37.5 – 41 x 38 x 21       | 820 nF            | 560 nF          | 220 nF – 270 nF |

## Film/Foil Polypropylene

### R73 Radial, Automotive Grade, 100 – 2,000 VDC

Capacitance Range: 100 pF to 2.2  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/R73](http://www.kemet.com/R73)



| R73                     | E                                                                                                   | I                                            | 2470                                                                                                                     | AA                         | 00                        | H                                                                                    |
|-------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------|--------------------------------------------------------------------------------------|
| Series                  | Rated Voltage (VDC)                                                                                 | Lead Spacing (mm)                            | Capacitance Code (pF)                                                                                                    | Packaging                  | Internal Use              | Capacitance Tolerance                                                                |
| Polypropylene Film/Foil | E = 100<br>G = 160<br>I = 250<br>M = 400<br>P = 630<br>Q = 1000<br>R = 1250<br>T = 1600<br>U = 2000 | I = 15.0<br>N = 22.5<br>R = 27.5<br>W = 37.5 | The last three digits represent significant figures.<br>The first digit specifies the total number of zeros to be added. | See Ordering Options Table | 00, 10, 30, 40 (Standard) | H = $\pm 2.5\%$ (for 2-section construction only)<br>J = $\pm 5\%$<br>K = $\pm 10\%$ |

| Case Size               | Voltage (VDC/VAC) |        |         |         |                           |                           |                 |                 |                  |
|-------------------------|-------------------|--------|---------|---------|---------------------------|---------------------------|-----------------|-----------------|------------------|
|                         | 100/63            | 160/90 | 250/125 | 400/160 | 630/300                   | 1,000/400                 | 1,250/450       | 1,600/450       | 2,000/500        |
| 15 – 18 x 11 x 5        | 47 nF             | 33 nF  | 15 nF   | 10 nF   | 10 nF – 12 nF             | 3.3 nF – 8.2 nF           | 2.2 nF – 2.7 nF | 1 nF – 1.8 nF   | 0.1 nF – 0.68 nF |
| 15 – 18 x 12 x 6        | 68 nF             | 47 nF  | 22 nF   | 15 nF   | 15 nF – 18 nF             | 10 nF – 12 nF             | 3.3 nF – 3.9 nF | 2.2 nF – 2.7 nF | 1 nF – 1.2 nF    |
| 15 – 18 x 13.5 x 7.5    | 100 nF            | 68 nF  | 33 nF   | 22 nF   | 22 nF – 27 nF             | 15 nF                     | 4.7 nF – 5.6 nF | 3.3 nF – 3.9 nF | 1.5 nF – 1.8 nF  |
| 15 – 18 x 14.5 x 8.5    |                   |        |         | 33 nF   | 33 nF                     | 18 nF – 22 nF             | 6.8 nF          | 4.7 nF          | 2.2 nF           |
| 15 – 18 x 16 x 10       | 150 nF            | 100 nF | 47 nF   | 47 nF   | 39 nF – 47 nF             | 27 nF                     | 8.2 nF          | 5.6 nF – 6.8 nF | 2.7 nF           |
| 22.5 – 26.5 x 15 x 6    |                   |        |         |         | 39 nF                     | 15 nF – 22 nF             | 8.2 nF – 12 nF  | 5.6 nF – 10 nF  | 2.7 nF – 3.9 nF  |
| 22.5 – 26.5 x 16 x 7    |                   |        |         |         | 47 nF – 56 nF             | 27 nF – 33 nF             | 15 nF – 18 nF   | 12 nF           | 4.7 nF – 5.6 nF  |
| 22.5 – 26.5 x 17 x 8.5  |                   |        |         |         | 68 nF                     | 39 nF                     | 22 nF           | 15 nF – 18 nF   | 6.8 nF – 8.2 nF  |
| 22.5 – 26.5 x 18.5 x 10 |                   |        |         |         | 82 nF – 100 nF            | 47 nF – 56 nF             | 27 nF – 33 nF   | 22 nF           | 10 nF            |
| 22.5 – 26.5 x 20 x 11   |                   |        |         |         |                           | 68 nF                     |                 |                 | 12 nF            |
| 27.5 – 32 x 17 x 9      |                   |        |         |         | 100 nF – 120 nF           | 47 nF – 82 nF             | 39 nF           | 27 nF           | 10 nF – 12 nF    |
| 27.5 – 32 x 20 x 11     |                   |        |         |         | 150 nF – 180 nF           | 82 nF – 120 nF            | 47 nF – 56 nF   | 33 nF – 39 nF   | 15 nF            |
| 27.5 – 32 x 22 x 13     |                   |        |         |         | 180 nF – 220 nF           | 120 nF – 150 nF           | 68 nF           | 47 nF – 56 nF   | 18 nF – 22 nF    |
| 27.5 – 32 x 25 x 13     |                   |        |         |         | 270 nF                    | 180 nF                    | 82 nF – 100 nF  |                 |                  |
| 27.5 – 32 x 28 x 14     |                   |        |         |         | 330 nF – 390 nF           | 220 nF                    | 120 nF          | 68 nF – 82 nF   | 27 nF – 33 nF    |
| 27.5 – 32 x 33 x 18     |                   |        |         |         | 390 nF – 560 nF           | 270 nF – 330 nF           | 120 nF – 180 nF | 100 nF – 120 nF | 33 nF – 47 nF    |
| 27.5 – 32 x 37 x 22     |                   |        |         |         | 560 nF – 820 nF           | 470 nF                    | 220 nF          | 150 nF – 180 nF | 56 nF – 68 nF    |
| 37.5 – 41.5 x 22 x 11   |                   |        |         |         | 220 nF – 330 nF           | 120 nF – 180 nF           | 82 nF – 120 nF  | 33 nF – 82 nF   | 18 nF – 27 nF    |
| 37.5 – 41.5 x 24 x 13   |                   |        |         |         | 330 nF – 470 nF           | 220 nF – 270 nF           | 120 nF – 180 nF | 100 nF          | 33 nF – 39 nF    |
| 37.5 – 41.5 x 28.5 x 16 |                   |        |         |         | 470 nF – 680 nF           | 270 nF – 390 nF           | 180 nF – 270 nF | 120 nF – 180 nF | 47 nF – 68 nF    |
| 37.5 – 41.5 x 32 x 19   |                   |        |         |         | 820 nF                    | 470 nF – 560 nF           | 330 nF          | 220 nF          | 82 nF            |
| 37.5 – 41.5 x 40 x 20   |                   |        |         |         | 1 $\mu$ F – 1.2 $\mu$ F   | 680 nF – 820 nF           | 390 nF – 560 nF | 270 nF – 330 nF | 100 nF – 120 nF  |
| 37.5 – 41.5 x 44 x 24   |                   |        |         |         | 1.5 $\mu$ F               | 1 $\mu$ F                 | 680 nF          | 390 nF – 560 nF | 150 nF           |
| 37.5 – 41.5 x 45 x 30   |                   |        |         |         | 1.8 $\mu$ F – 2.2 $\mu$ F | 1.2 $\mu$ F – 1.5 $\mu$ F | 820 nF          | 470 nF – 560 nF | 180 nF – 220 nF  |

# Film Capacitors – DC Film

## Pulse and High Frequency

### Film/Foil Polypropylene (cont.)

#### A72 Axial, 100 – 2,000 VDC

Capacitance Range: 47 pF to 0.33  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/A72](http://www.kemet.com/A72)



| A72                     | E                                                                            | F                                                | 1470                                                                                                                     | AA                         | 00                | J                                                 |
|-------------------------|------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------|---------------------------------------------------|
| Series                  | Rated Voltage (VDC)                                                          | Length (mm)                                      | Capacitance Code (pF)                                                                                                    | Packaging                  | Internal Use      | Capacitance Tolerance                             |
| Polypropylene Film/Foil | E = 100<br>I = 250<br>M = 400<br>P = 630<br>Q = 1000<br>S = 1500<br>U = 2000 | F = 11<br>H = 14<br>K = 20.5<br>Q = 28<br>T = 33 | The last three digits represent significant figures.<br>The first digit specifies the total number of zeros to be added. | See Ordering Options Table | 00, 02 (Standard) | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ |

| Case Size  | Voltage (VDC/VAC) |                 |                   |         |                 |                 |               |
|------------|-------------------|-----------------|-------------------|---------|-----------------|-----------------|---------------|
|            | 100/63            | 250/125         | 400/160           | 630/300 | 1,000/400       | 1,500/450       | 2,000/500     |
| 5 x 11     | 4.7 nF – 10 nF    | 2.2 nF – 3.3 nF | 0.047 nF – 1.5 nF |         |                 |                 |               |
| 5 x 16.5   |                   | 4.7 nF – 15 nF  |                   |         |                 |                 |               |
| 6.5 x 16.5 |                   |                 | 2.2 nF – 3.3 nF   |         |                 |                 |               |
| 7 x 16.5   |                   |                 | 4.7 nF            |         |                 |                 |               |
| 8 x 16.5   |                   |                 | 6.8 nF            |         |                 |                 |               |
| 8 x 20.5   |                   |                 |                   | 15 nF   |                 | 2.2 nF          |               |
| 8 x 28     |                   |                 |                   |         | 6.8 nF          |                 |               |
| 8.5 x 20.5 |                   |                 |                   |         | 3.3 nF – 4.7 nF |                 | 1 nF – 2.2 nF |
| 8.5 x 28   |                   |                 |                   |         | 10 nF           | 4.7 nF – 6.8 nF |               |
| 9 x 16.5   |                   |                 | 10 nF             |         |                 |                 |               |
| 9 x 28     |                   |                 |                   | 33 nF   |                 |                 | 3.3 nF        |
| 9.5 x 20.5 |                   |                 |                   | 22 nF   |                 | 3.3 nF          |               |
| 9.5 x 28   |                   |                 |                   |         |                 | 10 nF           | 4.7 nF        |
| 10 x 28    |                   |                 |                   | 47 nF   | 15 nF           |                 |               |
| 11 x 28    |                   |                 |                   |         | 22 nF           | 15 nF           | 6.8 nF        |
| 11.5 x 28  |                   |                 |                   | 68 nF   |                 |                 |               |
| 12.5 x 28  |                   |                 |                   |         |                 | 22 nF           |               |
| 13 x 28    |                   |                 |                   |         | 33 nF           |                 | 10 nF         |
| 13.5 x 28  |                   |                 |                   | 100 nF  |                 |                 |               |
| 13.5 x 33  |                   |                 |                   |         |                 | 33 nF           | 15 nF         |
| 14 x 33    |                   |                 |                   | 150 nF  | 47 nF           |                 |               |
| 16 x 33    |                   |                 |                   |         | 68 nF           | 47 nF           | 22 nF         |
| 16.5 x 33  |                   |                 |                   | 220 nF  |                 |                 |               |
| 18 x 33    |                   |                 |                   |         |                 | 68 nF           |               |
| 19 x 33    |                   |                 |                   |         | 100 nF          |                 |               |
| 19.5 x 33  |                   |                 |                   | 330 nF  |                 |                 |               |
| 20 x 33    |                   |                 |                   |         |                 |                 | 33 nF         |
| 22.5 x 33  |                   |                 |                   |         |                 |                 | 47 nF         |

### Metallized Polyester (PET)

**R60 Radial, Polyester, +105°C, 10 – 37.5 mm Lead Spacing, Automotive Grade, 50 – 1,000 VDC**

Capacitance Range: 0.001 to 150 µF • Temperature Range: -55°C to +105°C

[www.kemet.com/R60](http://www.kemet.com/R60)



| R60                  | M                                                                                   | F                                                    | 2470                                                                                                        | AA                         | 60                                           | K                               |
|----------------------|-------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------|---------------------------------|
| Series               | Rated Voltage (VDC)                                                                 | Length (mm)                                          | Capacitance Code (pF)                                                                                       | Packaging                  | Internal Use                                 | Capacitance Tolerance           |
| Metallized Polyester | C = 50<br>D = 63<br>E = 100<br>G = 160<br>I = 250<br>M = 400<br>P = 630<br>Q = 1000 | F = 10<br>I = 15<br>N = 22.5<br>R = 27.5<br>W = 37.5 | The last three digits represent significant figures. First digit specifies the number of zeros to be added. | See Ordering Options Table | 00<br>01<br>30<br>40<br>50<br>6A<br>L0<br>L1 | J = ±5%<br>K = ±10%<br>M = ±20% |

| Case Size               | Voltage (VDC/VAC) |                 |                 |                 |                 |                 |                 |                 |
|-------------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                         | 50/30             | 63/40           | 100/63          | 160/90          | 250/160         | 400/200         | 630/220         | 1,000/250       |
| 10 – 13 x 11 x 5        | 3.3 µF            | 1.5 µF – 2.2 µF | 1 µF – 1.5 µF   | 470 nF          | 220 nF – 330 nF | 100 nF          | 22 nF – 47 nF   | 4.7 nF          |
| 10 – 13 x 12 x 6        | 4.7 µF – 5.6 µF   | 3.3 µF          |                 | 680 nF          | 470 nF          | 150 nF          | 33 nF – 47 nF   | 6.8 nF          |
| 10 – 13 x 9 x 4         | 1.5 µF – 2.2 µF   | 1 µF            | 330 nF – 680 nF | 220 nF – 330 nF | 100 nF – 150 nF | 33 nF – 68 nF   | 4.7 nF – 22 nF  | 1 nF – 3.3 nF   |
| 15 – 18 x 11 x 5        |                   | 680 nF – 1.5 µF | 330 nF – 1 µF   | 330 nF – 680 nF | 100 nF – 330 nF | 22 nF – 220 nF  | 33 nF – 68 nF   | 10 nF – 15 nF   |
| 15 – 18 x 12 x 13       |                   | 4.7 µF          | 3.3 µF          | 2.2 µF          | 1 µF            | 470 nF – 680 nF |                 | 47 nF           |
| 15 – 18 x 12 x 6        |                   | 2.2 µF          |                 |                 | 470 nF          | 220 nF          | 68 nF – 100 nF  | 22 nF           |
| 15 – 18 x 12.5 x 9      |                   | 3.3 µF          | 2.2 µF          | 1.5 µF          | 680 nF          | 330 nF – 470 nF | 100 nF          | 33 nF           |
| 15 – 18 x 13.5 x 7.5    |                   | 3.3 µF          | 1.5 µF          | 1 µF            | 680 nF          | 330 nF – 470 nF | 100 nF – 150 nF | 33 nF           |
| 15 – 18 x 16 x 10       |                   | 6.8 µF          | 3.3 µF          | 2.2 µF          | 1.5 µF          | 680 nF          | 220 nF – 330 nF | 47 nF           |
| 15 – 18 x 19 x 11       |                   |                 | 4.7 µF          | 3.3 µF          |                 | 680 nF – 1 µF   |                 | 68 nF           |
| 15 – 18 x 14.5 x 8.5    |                   | 4.7 µF          | 2.2 µF          | 1.5 µF          | 1 µF            | 470 nF          | 150 nF – 220 nF |                 |
| 22.5 – 26.5 x 15 x 6    |                   | 3.3 µF          | 1.5 µF – 2.2 µF | 1.5 µF          | 470 nF – 1 µF   | 220 nF – 680 nF | 100 nF – 220 nF | 33 nF – 47 nF   |
| 22.5 – 26.5 x 16 x 7    |                   | 4.7 µF – 6.8 µF | 3.3 µF          | 2.2 µF          | 1.5 µF          | 680 nF          | 220 nF – 330 nF | 68 nF           |
| 22.5 – 26.5 x 17 x 8.5  |                   | 10 µF           | 4.7 µF          | 3.3 µF          |                 | 1 µF            | 330 nF          | 100 nF          |
| 22.5 – 26.5 x 22 x 13   |                   |                 | 10 µF           | 6.8 µF          |                 | 2.2 µF          | 680 nF          | 150 nF          |
| 22.5 – 26.5 x 18.5 x 10 |                   |                 | 6.8 µF          |                 | 2.2 µF          | 1 µF – 1.5 µF   | 330 nF – 470 nF |                 |
| 22.5 – 26.5 x 20 x 11   |                   | 15 µF           |                 | 4.7 µF          | 3.3 µF          | 1.5 µF          | 470 nF – 680 nF |                 |
| 27.5 – 32 x 17 x 9      |                   | 10 µF           | 4.7 µF – 10 µF  | 3.3 µF – 10 µF  | 1.5 µF – 4.7 µF | 680 nF – 1.5 µF | 330 nF – 470 nF | 150 nF – 220 nF |
| 27.5 – 32 x 20 x 11     |                   | 15 µF – 22 µF   | 15 µF           | 15 µF           | 6.8 µF          | 2.2 µF          | 680 nF – 1 µF   | 330 nF          |
| 27.5 – 32 x 22 x 13     |                   | 22 µF           | 22 µF           | 22 µF           | 10 µF           | 3.3 µF          |                 | 470 nF          |
| 27.5 – 32 x 28 x 14     |                   |                 | 33 µF           | 33 µF           | 15 µF           | 4.7 µF          |                 | 680 nF          |
| 27.5 – 32 x 33 x 18     |                   | 33 µF           |                 | 47 µF           | 22 µF           | 6.8 µF          | 1.5 µF – 2.2 µF | 1 µF            |
| 27.5 – 32 x 37 x 22     |                   | 47 µF – 68 µF   | 47 µF – 68 µF   | 68 µF           | 33 µF           | 10 µF           | 3.3 µF – 4.7 µF | 1.5 µF          |
| 37.5 – 41.5 x 22 x 11   |                   | 22 µF           | 15 µF – 22 µF   | 10 µF – 22 µF   | 4.7 µF – 10 µF  | 3.3 µF – 4.7 µF | 1 µF – 1.5 µF   | 470 nF – 680 nF |
| 37.5 – 41.5 x 28.5 x 16 |                   | 47 µF           | 47 µF           | 47 µF           | 22 µF           | 10 µF           | 3.3 µF          | 1 µF            |
| 37.5 – 41.5 x 32 x 19   |                   | 68 µF           | 68 µF           | 68 µF           | 33 µF           |                 | 4.7 µF          | 1.5 µF          |
| 37.5 – 41.5 x 40 x 20   |                   | 100 µF          |                 | 100 µF          | 47 µF           |                 | 6.8 µF          | 2.2 µF          |
| 37.5 – 41.5 x 44 x 24   |                   | 100 µF          | 100 µF          |                 | 68 µF           | 15 µF – 22 µF   | 10 µF           | 3.3 µF          |
| 37.5 – 41.5 x 45 x 30   |                   |                 | 150 µF          | 150 µF          |                 | 33 µF           |                 | 4.7 µF          |
| 37.5 – 41.5 x 24 x 13   |                   | 33 µF           | 33 µF           | 33 µF           | 15 µF           | 6.8 µF          | 2.2 µF          |                 |

# Film Capacitors – DC Film

General Purpose – Through-Hole

## Metallized Polyester (PET) (cont.)

**R66 Radial, 7.5 mm Lead Spacing, Automotive Grade, 50 – 630 VDC**

Capacitance Range: 0.001 to 4.7  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/R66](http://www.kemet.com/R66)



| R66                  | E                                                            | D           | 3100                                                                                                        | AA                         | 7A             | J                                                 |
|----------------------|--------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------|----------------------------|----------------|---------------------------------------------------|
| Series               | Rated Voltage (VDC)                                          | Length (mm) | Capacitance Code (pF)                                                                                       | Packaging                  | Internal Use   | Capacitance Tolerance                             |
| Metallized Polyester | C = 50<br>D = 63<br>E = 100<br>I = 250<br>M = 400<br>P = 630 | D = 7.5     | The last three digits represent significant figures. First digit specifies the number of zeros to be added. | See Ordering Options Table | 10<br>6A<br>7A | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ |

| Case Size           | Voltage (VDC/VAC)  |                           |                 |                 |                 |                |
|---------------------|--------------------|---------------------------|-----------------|-----------------|-----------------|----------------|
|                     | 50/30              | 63/40                     | 100/63          | 250/160         | 400/200         | 630/220        |
| 7.5 – 10 x 10.5 x 5 | 2.2 $\mu$ F        | 1.5 $\mu$ F               | 1 $\mu$ F       | 220 nF          | 68 nF           | 22 nF          |
| 7.5 – 10 x 8 x 3    | 680 nF – 1 $\mu$ F | 330 nF – 470 nF           | 68 nF – 220 nF  | 22 nF – 68 nF   | 6.8 nF – 22 nF  | 1 nF – 4.7 nF  |
| 7.5 – 10 x 9 x 4    | 1.5 $\mu$ F        | 680 nF – 1 $\mu$ F        | 330 nF – 680 nF | 100 nF – 150 nF | 33 nF – 47 nF   | 6.8 nF – 15 nF |
| 7.5 – 10.5 x 12 x 6 | 4.7 $\mu$ F        | 2.2 $\mu$ F – 3.3 $\mu$ F | 1.5 $\mu$ F     | 330 nF          | 100 nF – 150 nF | 33 nF – 47 nF  |

## Metallized Polyester (PET) (cont.)

**RSB Radial, Polyester, 125°C, 5 mm (Stacked), Automotive Grade, 50 – 630 VDC**

Capacitance Range: 0.001 to 2.2 µF • Temperature Range: -55°C to +125°C

[www.kemet.com/RSB](http://www.kemet.com/RSB)



| RSB                  | D                                                                       | C           | 3100                                                                                                        | AA                         | 00                   | J                               |
|----------------------|-------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------|----------------------------|----------------------|---------------------------------|
| Series               | Rated Voltage (VDC)                                                     | Length (mm) | Capacitance Code (pF)                                                                                       | Packaging                  | Internal Use         | Capacitance Tolerance           |
| Metallized Polyester | C = 50<br>D = 63<br>E = 100<br>I = 250<br>M = 400<br>W = 500<br>P = 630 | C = 5.0     | The last three digits represent significant figures. First digit specifies the number of zeros to be added. | See Ordering Options Table | 30<br>50<br>60<br>70 | J = ±5%<br>K = ±10%<br>M = ±20% |

| Case Size           | Voltage (VDC/VAC) |                 |                 |               |                |                 |                 |
|---------------------|-------------------|-----------------|-----------------|---------------|----------------|-----------------|-----------------|
|                     | 50/30             | 63/40           | 100/63          | 250/160       | 400/200        | 500/220         | 630/220         |
| 5 – 7.2 x 10 x 5    |                   | 1 µF            | 220 nF          | 100 nF        | 33 nF          | 10 nF           | 6.8 nF          |
| 5 – 7.2 x 11 x 6    | 2.2 µF            | 1.5 µF – 2.2 µF | 330 nF – 470 nF | 150 nF        | 47 nF          | 15 nF           | 10 nF           |
| 5 – 7.2 x 6.5 x 2.5 |                   | 100 nF – 220 nF | 4.7 nF – 68 nF  | 1 nF – 15 nF  | 1 nF – 4.7 nF  | 1 nF – 1.5 nF   | 1 nF            |
| 5 – 7.2 x 7.5 x 3.5 |                   | 330 nF – 470 nF | 100 nF          | 22 nF – 33 nF | 6.8 nF – 15 nF | 2.2 nF – 4.7 nF | 1.5 nF – 2.2 nF |
| 5 – 7.2 x 9.5 x 4.5 |                   | 680 nF          | 150 nF          | 47 nF – 68 nF | 22 nF          | 6.8 nF          | 3.3 nF – 4.7 nF |
| 5 – 7.2 x 13 x 7.2  |                   | 3.3 µF – 4.7 µF |                 |               |                |                 |                 |

# Film Capacitors – DC Film

General Purpose – Through-Hole

## Metallized Polyester (PET) (cont.)

**A50 Axial Pulse DC Transient, Automotive Grade, 50 – 1,000 VDC**

Capacitance Range: 0.001 to 10  $\mu\text{F}$  • Temperature Range: -55°C to +105°C

[www.kemet.com/A50](http://www.kemet.com/A50)



| A50                  | C                                                                        | F                                                | 3470                                                                                                        | AA                         | 00                | J                                                 |
|----------------------|--------------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------|-------------------|---------------------------------------------------|
| Series               | Rated Voltage (VDC)                                                      | Length (mm)                                      | Capacitance Code (pF)                                                                                       | Packaging                  | Internal Use      | Capacitance Tolerance                             |
| Metallized Polyester | C = 50<br>D = 63<br>E = 100<br>I = 250<br>M = 400<br>P = 630<br>Q = 1000 | F = 11<br>H = 14<br>K = 20.5<br>Q = 28<br>T = 33 | The last three digits represent significant figures. First digit specifies the number of zeros to be added. | See Ordering Options Table | 00, 60 (Standard) | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ |

| Case Size  | Voltage (VDC/VAC) |                   |                   |                                     |                 |               |               |
|------------|-------------------|-------------------|-------------------|-------------------------------------|-----------------|---------------|---------------|
|            | 50/30             | 63/40             | 100/63            | 250/160                             | 400/200         | 630/220       | 1,000/250     |
| 5 x 11     | 470 nF – 680 nF   | 330 nF            | 100 nF – 220 nF   | 47 nF – 68 nF                       | 10 nF – 33 nF   | 1 nF – 6.8 nF |               |
| 5 x 14     |                   |                   |                   |                                     |                 | 10 nF – 15 nF |               |
| 5.5 x 14   |                   |                   |                   | 100 nF – 150 nF                     |                 |               |               |
| 6 x 14     |                   | 470 nF – 680 nF   | 330 nF – 470 nF   |                                     | 47 nF – 68 nF   | 22 nF         |               |
| 6 x 20.5   |                   |                   |                   | 330 nF                              | 150 nF          | 33 nF – 47 nF |               |
| 6.5 x 11   | 1 $\mu\text{F}$   |                   |                   |                                     |                 |               |               |
| 6.5 x 14   |                   |                   |                   | 220 nF                              | 100 nF          |               | 1 nF – 3.3 nF |
| 6.5 x 20.5 |                   | 1.5 $\mu\text{F}$ |                   |                                     |                 |               |               |
| 7 x 14     | 1.5 $\mu\text{F}$ | 1 $\mu\text{F}$   | 680 nF            |                                     |                 |               |               |
| 7 x 20.5   |                   |                   | 1 $\mu\text{F}$   | 470 nF                              |                 | 68 nF         | 10 nF         |
| 7 x 28     |                   |                   |                   |                                     |                 | 100 nF        |               |
| 7.5 x 14   |                   |                   |                   |                                     |                 |               | 4.7 nF        |
| 7.5 x 20.5 | 3.3 $\mu\text{F}$ |                   |                   |                                     | 220 nF          |               | 15 nF         |
| 8 x 14     | 2.2 $\mu\text{F}$ |                   |                   |                                     |                 |               | 6.8 nF        |
| 8 x 20.5   |                   | 2.2 $\mu\text{F}$ | 1.5 $\mu\text{F}$ |                                     |                 |               |               |
| 8 x 28     |                   |                   |                   |                                     |                 |               | 33 nF         |
| 8.5 x 20.5 | 4.7 $\mu\text{F}$ |                   |                   | 680 nF                              | 330 nF          |               |               |
| 8.5 x 28   |                   |                   |                   | 1 $\mu\text{F}$ – 1.5 $\mu\text{F}$ | 470 nF          | 150 nF        |               |
| 9 x 20.5   |                   |                   |                   |                                     |                 |               | 22 nF         |
| 9 x 28     |                   |                   |                   |                                     |                 |               | 47 nF         |
| 9.5 x 20.5 |                   | 3.3 $\mu\text{F}$ | 2.2 $\mu\text{F}$ |                                     |                 |               |               |
| 9.5 x 28   |                   | 4.7 $\mu\text{F}$ | 3.3 $\mu\text{F}$ |                                     |                 |               |               |
| 10 x 20.5  | 6.8 $\mu\text{F}$ |                   |                   |                                     |                 |               |               |
| 10 x 28    |                   |                   |                   |                                     | 680 nF          | 220 nF        |               |
| 10 x 33    |                   |                   | 4.7 $\mu\text{F}$ |                                     |                 |               |               |
| 10.5 x 28  |                   |                   |                   |                                     |                 |               | 68 nF         |
| 10.5 x 33  |                   |                   |                   |                                     | 1 $\mu\text{F}$ | 330 nF        |               |
| 11 x 28    |                   | 6.8 $\mu\text{F}$ |                   |                                     |                 |               |               |
| 11 x 33    |                   |                   |                   | 2.2 $\mu\text{F}$                   |                 |               |               |
| 11.5 x 33  |                   | 10 $\mu\text{F}$  |                   |                                     |                 |               |               |

### Metallized Polyester (PET) (cont.)

#### A50 Axial Pulse DC Transient, Automotive Grade, 50 – 1,000 VDC (cont.)

Capacitance Range: 0.001 to 10  $\mu\text{F}$  • Temperature Range: -55°C to +105°C

[www.kemet.com/A50](http://www.kemet.com/A50)



| A50                  | C                                                                        | F                                                | 3470                                                                                                        | AA                         | 00                | J                                                 |
|----------------------|--------------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------|-------------------|---------------------------------------------------|
| Series               | Rated Voltage (VDC)                                                      | Length (mm)                                      | Capacitance Code (pF)                                                                                       | Packaging                  | Internal Use      | Capacitance Tolerance                             |
| Metallized Polyester | C = 50<br>D = 63<br>E = 100<br>I = 250<br>M = 400<br>P = 630<br>Q = 1000 | F = 11<br>H = 14<br>K = 20.5<br>Q = 28<br>T = 33 | The last three digits represent significant figures. First digit specifies the number of zeros to be added. | See Ordering Options Table | 00, 60 (Standard) | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ |

| Case Size | Voltage (VDC/VAC) |       |                   |                   |                   |                 |           |
|-----------|-------------------|-------|-------------------|-------------------|-------------------|-----------------|-----------|
|           | 50/30             | 63/40 | 100/63            | 250/160           | 400/200           | 630/220         | 1,000/250 |
| 12 x 20.5 | 10 $\mu\text{F}$  |       |                   |                   |                   |                 |           |
| 12 x 33   |                   |       | 6.8 $\mu\text{F}$ |                   |                   | 470 nF          |           |
| 12.5 x 28 |                   |       |                   |                   |                   |                 | 100 nF    |
| 12.5 x 33 |                   |       |                   |                   | 1.5 $\mu\text{F}$ |                 |           |
| 13 x 33   |                   |       |                   | 3.3 $\mu\text{F}$ |                   |                 |           |
| 13.5 x 33 |                   |       |                   |                   |                   |                 | 150 nF    |
| 14.5 x 33 |                   |       | 10 $\mu\text{F}$  |                   |                   | 680 nF          |           |
| 15 x 33   |                   |       |                   |                   | 2.2 $\mu\text{F}$ |                 |           |
| 15.5 x 33 |                   |       |                   | 4.7 $\mu\text{F}$ |                   |                 |           |
| 16 x 33   |                   |       |                   |                   |                   |                 | 220 nF    |
| 17.5 x 33 |                   |       |                   |                   |                   | 1 $\mu\text{F}$ |           |
| 18.5 x 33 |                   |       |                   | 6.8 $\mu\text{F}$ | 3.3 $\mu\text{F}$ |                 |           |
| 19 x 33   |                   |       |                   |                   |                   |                 | 330 nF    |
| 22 x 33   |                   |       |                   | 10 $\mu\text{F}$  |                   |                 | 470 nF    |

# Film Capacitors – DC Film

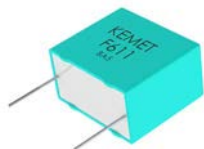
## General Purpose – Through-Hole

### Metallized Polyester (PET) (cont.)

**F611 and F612, 5 – 37.5 mm Lead Spacing, 50 – 1,000 VDC**

Capacitance Range: 0.001 to 180  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/F611](http://www.kemet.com/F611)



| F               | 611                                                  | J                                                                            | F                   | 104                                                                                    | M                                                 | 050                                                                                                  | C                          |
|-----------------|------------------------------------------------------|------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                                               | Lead Spacing (mm)                                                            | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                             | Rated Voltage (VDC)                                                                                  | Packaging                  |
| F = Film        | Metallized Polyester<br>611 = Wound<br>612 = Stacked | J = 5<br>K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | 050 = 50<br>063 = 63<br>100 = 100<br>160 = 160<br>250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1,000 | See Ordering Options Table |

### F611

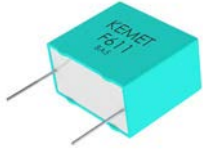
| Case Size               | Voltage (VDC/VAC)         |                           |                           |                           |                           |                           |                           |                 |
|-------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-----------------|
|                         | 50/30                     | 63/40                     | 100/63                    | 160/90                    | 250/160                   | 400/200                   | 630/220                   | 1,000/250       |
| 5 – 7.2 x 10 x 5        | 1.8 $\mu$ F – 2.2 $\mu$ F |                           |                           |                           |                           |                           | 22 nF                     | 6.8 nF          |
| 5 – 7.2 x 11 x 6        | 2.7 $\mu$ F – 3.3 $\mu$ F |                           |                           |                           |                           |                           | 27 nF – 33 nF             | 8.2 nF – 12 nF  |
| 5 – 7.2 x 13 x 7.2      | 3.9 $\mu$ F – 6 $\mu$ F   |                           |                           |                           |                           |                           | 39 nF – 47 nF             | 15 nF           |
| 5 – 7.2 x 6.5 x 2.5     | 270 nF – 470 nF           |                           |                           |                           |                           |                           | 1.2 nF – 3.9 nF           | 1 nF            |
| 5 – 7.2 x 7.5 x 3.5     | 560 nF – 1 $\mu$ F        |                           |                           |                           |                           |                           | 4.7 nF – 10 nF            | 1.2 nF – 3.3 nF |
| 5 – 7.2 x 9.5 x 4.5     | 1.2 $\mu$ F – 1.5 $\mu$ F |                           |                           |                           |                           |                           | 12 nF – 18 nF             | 3.9 nF – 5.6 nF |
| 7.5 – 10 x 10.5 x 5     |                           |                           |                           |                           |                           |                           | 22 nF – 39 nF             | 8.2 nF – 12 nF  |
| 7.5 – 10 x 6 x 2.5      |                           |                           |                           |                           |                           |                           | 1.8 nF – 4.7 nF           | 1 nF – 1.5 nF   |
| 7.5 – 10 x 8 x 3        |                           |                           |                           |                           |                           |                           | 5.6 nF – 10 nF            | 1.8 nF – 3.3 nF |
| 7.5 – 10 x 8 x 4        |                           |                           |                           |                           |                           |                           | 12 nF – 18 nF             | 3.9 nF – 6.8 nF |
| 7.5 – 10.5 x 12 x 6     |                           |                           |                           |                           |                           |                           | 47 nF – 56 nF             | 15 nF – 22 nF   |
| 10 – 13 x 11 x 5        |                           |                           |                           |                           | 180 nF – 270 nF           | 100 nF – 150 nF           | 33 nF – 47 nF             | 15 nF – 18 nF   |
| 10 – 13 x 12 x 6        |                           |                           |                           |                           | 330 nF – 470 nF           | 180 nF – 220 nF           | 56 nF – 82 nF             | 22 nF – 33 nF   |
| 10 – 13 x 9 x 4         |                           |                           |                           |                           | 100 nF – 150 nF           | 33 nF – 82 nF             | 12 nF – 27 nF             | 1 nF – 12 nF    |
| 15 – 18 x 10 x 4        | 1.8 $\mu$ F               | 1.2 $\mu$ F – 1.5 $\mu$ F | 560 nF – 1 $\mu$ F        | 330 nF – 390 nF           | 180 nF – 270 nF           | 56 nF – 150 nF            | 22 nF – 47 nF             | 8.2 nF – 18 nF  |
| 15 – 18 x 11 x 5        | 2.2 $\mu$ F – 2.7 $\mu$ F | 1.8 $\mu$ F               | 1.2 $\mu$ F – 1.5 $\mu$ F | 470 nF – 680 nF           | 330 nF – 390 nF           | 180 nF – 220 nF           | 56 nF – 82 nF             | 22 nF – 33 nF   |
| 15 – 18 x 12 x 6        |                           | 3.3 $\mu$ F               | 2.2 $\mu$ F               | 1 $\mu$ F                 | 560 nF                    | 330 nF                    | 120 nF                    | 47 nF           |
| 15 – 18 x 12.5 x 5.5    | 3.3 $\mu$ F – 3.9 $\mu$ F | 2.2 $\mu$ F – 2.7 $\mu$ F | 1.8 $\mu$ F               | 820 nF                    | 470 nF                    | 270 nF                    | 100 nF                    | 39 nF           |
| 15 – 18 x 13.5 x 7.5    | 4.7 $\mu$ F – 5.6 $\mu$ F | 3.9 $\mu$ F – 4.7 $\mu$ F | 2.7 $\mu$ F – 3.3 $\mu$ F | 1.2 $\mu$ F – 1.5 $\mu$ F | 680 nF – 1 $\mu$ F        | 390 nF – 560 nF           | 150 nF – 180 nF           | 56 nF – 68 nF   |
| 15 – 18 x 14.5 x 8.5    | 6.8 $\mu$ F – 8.2 $\mu$ F | 5.6 $\mu$ F – 6.8 $\mu$ F | 3.9 $\mu$ F – 4.7 $\mu$ F | 1.8 $\mu$ F               | 1.2 $\mu$ F               | 680 nF                    | 220 nF                    | 82 nF – 100 nF  |
| 15 – 18 x 16 x 10       | 10 $\mu$ F                | 8.2 $\mu$ F – 10 $\mu$ F  | 5.6 $\mu$ F               | 2.2 $\mu$ F               | 1.5 $\mu$ F               | 820 nF                    | 270 nF – 330 nF           | 120 nF          |
| 15 – 18 x 19 x 11       | 12 $\mu$ F – 15 $\mu$ F   | 12 $\mu$ F                | 6.8 $\mu$ F – 8.2 $\mu$ F | 2.7 $\mu$ F – 3.9 $\mu$ F | 1.8 $\mu$ F – 2.2 $\mu$ F | 1 $\mu$ F – 1.5 $\mu$ F   | 390 nF – 470 nF           | 150 nF – 180 nF |
| 22.5 – 26 x 14.5 x 6    |                           | 4.7 $\mu$ F – 5.6 $\mu$ F | 2.2 $\mu$ F – 3.9 $\mu$ F | 1.2 $\mu$ F – 1.8 $\mu$ F | 820 nF – 1 $\mu$ F        | 270 nF – 680 nF           | 120 nF – 220 nF           | 33 nF – 100 nF  |
| 22.5 – 26 x 16 x 7      |                           | 6.8 $\mu$ F – 8.2 $\mu$ F | 4.7 $\mu$ F – 5.6 $\mu$ F | 2.2 $\mu$ F – 2.7 $\mu$ F | 1.2 $\mu$ F – 1.5 $\mu$ F | 820 nF – 1 $\mu$ F        | 270 nF – 330 nF           | 120 nF – 150 nF |
| 22.5 – 26 x 16 x 8      |                           |                           | 6.8 $\mu$ F               |                           | 1.8 $\mu$ F               |                           | 390 nF                    | 180 nF          |
| 22.5 – 26 x 18.5 x 10   |                           | 15 $\mu$ F                | 12 $\mu$ F                | 4.7 $\mu$ F               | 2.7 $\mu$ F               | 1.8 $\mu$ F               | 680 nF                    | 270 nF          |
| 22.5 – 26 x 18.5 x 9    |                           | 12 $\mu$ F                | 10 $\mu$ F                | 3.9 $\mu$ F               |                           | 1.5 $\mu$ F               | 560 nF                    | 220 nF          |
| 22.5 – 26 x 20 x 11     |                           | 18 $\mu$ F                | 15 $\mu$ F                | 5.6 $\mu$ F               | 3.3 $\mu$ F               | 2.2 $\mu$ F               | 820 nF                    | 330 nF          |
| 22.5 – 26 x 22 x 13     |                           | 22 $\mu$ F                | 18 $\mu$ F                | 6.8 $\mu$ F – 8.2 $\mu$ F | 3.9 $\mu$ F – 4.7 $\mu$ F | 2.7 $\mu$ F – 3.3 $\mu$ F | 1 $\mu$ F                 | 390 nF – 470 nF |
| 22.5 – 26 x 24.5 x 15.5 |                           | 27 $\mu$ F – 33 $\mu$ F   | 22 $\mu$ F – 27 $\mu$ F   | 10 $\mu$ F – 12 $\mu$ F   | 5.6 $\mu$ F – 6.8 $\mu$ F | 3.9 $\mu$ F – 4.7 $\mu$ F | 1.2 $\mu$ F – 1.5 $\mu$ F | 560 nF – 680 nF |
| 22.5 – 26 x 17 x 8.5    |                           | 10 $\mu$ F                | 8.2 $\mu$ F               | 3.3 $\mu$ F               | 2.2 $\mu$ F               | 1.2 $\mu$ F               | 470 nF                    |                 |

### Metallized Polyester (PET) (cont.)

#### F611 and F612, 5 – 37.5 mm Lead Spacing, 50 – 1,000 VDC (cont.)

Capacitance Range: 0.001 to 180  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/F611](http://www.kemet.com/F611)



| F               | 611                                                  | J                                                                            | F                   | 104                                                                                    | M                                              | 050                                                                                                  | C                          |
|-----------------|------------------------------------------------------|------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                                               | Lead Spacing (mm)                                                            | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                          | Rated Voltage (VDC)                                                                                  | Packaging                  |
| F = Film        | Metallized Polyester<br>611 = Wound<br>612 = Stacked | J = 5<br>K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | 050 = 50<br>063 = 63<br>100 = 100<br>160 = 160<br>250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1,000 | See Ordering Options Table |

#### F611 (cont.)

| Case Size               | Voltage (VDC/VAC)         |                           |                           |                           |                           |                           |                           |
|-------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|                         | 63/40                     | 100/63                    | 160/90                    | 250/160                   | 400/200                   | 630/220                   | 1,000/250                 |
| 27.5 – 31.5 x 17 x 9    | 15 $\mu$ F                | 10 $\mu$ F                | 5.6 $\mu$ F – 8.2 $\mu$ F | 2.2 $\mu$ F – 4.7 $\mu$ F | 820 nF – 1.8 $\mu$ F      | 330 nF – 680 nF           | 150 nF – 330 nF           |
| 27.5 – 31.5 x 20 x 11   | 18 $\mu$ F – 22 $\mu$ F   | 15 $\mu$ F – 18 $\mu$ F   | 10 $\mu$ F – 12 $\mu$ F   | 5.6 $\mu$ F – 6.8 $\mu$ F | 2.2 $\mu$ F – 2.7 $\mu$ F | 820 nF – 1 $\mu$ F        | 390 nF – 470 nF           |
| 27.5 – 31.5 x 25 x 13   | 27 $\mu$ F – 33 $\mu$ F   | 22 $\mu$ F – 27 $\mu$ F   | 15 $\mu$ F – 18 $\mu$ F   | 8.2 $\mu$ F – 12 $\mu$ F  | 3.3 $\mu$ F – 4.7 $\mu$ F | 1.2 $\mu$ F – 1.8 $\mu$ F | 560 nF – 680 nF           |
| 27.5 – 31.5 x 28 x 14   | 39 $\mu$ F                | 33 $\mu$ F                | 22 $\mu$ F                | 15 $\mu$ F                | 5.6 $\mu$ F               | 2.2 $\mu$ F               | 820 nF                    |
| 27.5 – 31.5 x 28 x 17.5 | 47 $\mu$ F                | 39 $\mu$ F                | 27 $\mu$ F                | 18 $\mu$ F                | 6.8 $\mu$ F – 8.2 $\mu$ F | 2.2 $\mu$ F – 2.7 $\mu$ F | 1 $\mu$ F – 1.2 $\mu$ F   |
| 27.5 – 31.5 x 29 x 19   | 56 $\mu$ F                | 47 $\mu$ F                | 33 $\mu$ F                | 22 $\mu$ F                |                           |                           | 1.5 $\mu$ F               |
| 27.5 – 31.5 x 37 x 22   | 68 $\mu$ F – 100 $\mu$ F  | 56 $\mu$ F – 82 $\mu$ F   | 39 $\mu$ F – 56 $\mu$ F   | 27 $\mu$ F – 33 $\mu$ F   | 10 $\mu$ F – 15 $\mu$ F   | 3.3 $\mu$ F – 4.7 $\mu$ F | 1.8 $\mu$ F – 2.2 $\mu$ F |
| 37.5 – 41 x 22 x 11     | 22 $\mu$ F – 27 $\mu$ F   | 22 $\mu$ F – 27 $\mu$ F   | 15 $\mu$ F – 18 $\mu$ F   | 5.6 $\mu$ F – 12 $\mu$ F  | 2.2 $\mu$ F – 4.7 $\mu$ F | 820 nF – 1.8 $\mu$ F      | 470 nF – 680 nF           |
| 37.5 – 41 x 24 x 13     | 33 $\mu$ F                | 33 $\mu$ F                | 22 $\mu$ F                | 15 $\mu$ F                | 5.6 $\mu$ F – 6.8 $\mu$ F | 2.2 $\mu$ F               | 820 nF – 1 $\mu$ F        |
| 37.5 – 41 x 26 x 15     | 39 $\mu$ F – 47 $\mu$ F   | 39 $\mu$ F – 47 $\mu$ F   | 27 $\mu$ F – 33 $\mu$ F   | 18 $\mu$ F – 22 $\mu$ F   | 8.2 $\mu$ F               | 2.7 $\mu$ F               | 1.2 $\mu$ F               |
| 37.5 – 41 x 28.5 x 16   | 56 $\mu$ F                | 56 $\mu$ F                | 39 $\mu$ F                | 27 $\mu$ F                | 10 $\mu$ F                | 3.3 $\mu$ F               | 1.5 $\mu$ F               |
| 37.5 – 41 x 32 x 19     | 68 $\mu$ F                | 68 $\mu$ F                | 47 $\mu$ F                | 33 $\mu$ F                | 12 $\mu$ F                | 3.9 $\mu$ F – 4.7 $\mu$ F | 1.8 $\mu$ F – 2.2 $\mu$ F |
| 37.5 – 41 x 38 x 21     | 82 $\mu$ F – 100 $\mu$ F  | 82 $\mu$ F – 100 $\mu$ F  | 56 $\mu$ F – 68 $\mu$ F   | 39 $\mu$ F – 47 $\mu$ F   | 15 $\mu$ F – 18 $\mu$ F   | 5.6 $\mu$ F – 6.8 $\mu$ F | 2.7 $\mu$ F               |
| 37.5 – 41 x 44 x 24     | 120 $\mu$ F – 150 $\mu$ F | 120 $\mu$ F – 150 $\mu$ F | 82 $\mu$ F – 100 $\mu$ F  | 56 $\mu$ F – 68 $\mu$ F   | 22 $\mu$ F – 27 $\mu$ F   | 8.2 $\mu$ F – 10 $\mu$ F  | 3.3 $\mu$ F – 3.9 $\mu$ F |
| 37.5 – 41 x 45 x 30     | 180 $\mu$ F               | 180 $\mu$ F               | 120 $\mu$ F               | 82 $\mu$ F                | 33 $\mu$ F                | 12 $\mu$ F                | 4.7 $\mu$ F – 5.6 $\mu$ F |

# Film Capacitors – DC Film

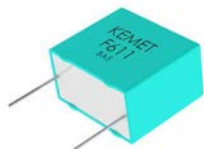
## General Purpose – Through-Hole

### Metallized Polyester (PET) (cont.)

#### F611 and F612, 5 – 37.5 mm Lead Spacing, 50 – 1,000 VDC (cont.)

Capacitance Range: 0.001 to 180  $\mu$ F • Temperature Range: -55°C to +105°C

[www.kemet.com/F611](http://www.kemet.com/F611)



| F               | 611                                                  | J                                                                            | F                   | 104                                                                                    | M                                                 | 050                                                                                                  | C                          |
|-----------------|------------------------------------------------------|------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                                               | Lead Spacing (mm)                                                            | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                             | Rated Voltage (VDC)                                                                                  | Packaging                  |
| F = Film        | Metallized Polyester<br>611 = Wound<br>612 = Stacked | J = 5<br>K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | 050 = 50<br>063 = 63<br>100 = 100<br>160 = 160<br>250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1,000 | See Ordering Options Table |

### F612

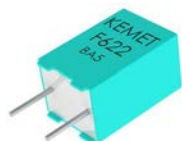
| Case Size           | Voltage (VDC/VAC)         |                           |                 |                 |                 |                 |                 |
|---------------------|---------------------------|---------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                     | 63/40                     | 100/63                    | 160/90          | 250/140         | 250/160         | 400/160         | 400/200         |
| 5 – 7.2 x 10 x 5    | 1 $\mu$ F                 | 560 nF – 680 nF           |                 | 150 nF          | 82 nF – 100 nF  | 47 nF           | 27 nF – 33 nF   |
| 5 – 7.2 x 11 x 6    | 1.2 $\mu$ F – 1.5 $\mu$ F | 820 nF – 1 $\mu$ F        |                 | 180 nF – 220 nF | 120 nF – 150 nF | 68 nF           | 39 nF – 56 nF   |
| 5 – 7.2 x 6.5 x 2.5 | 100 nF – 220 nF           | 1 nF – 120 nF             |                 | 22 nF – 27 nF   | 6.8 nF – 18 nF  | 6.8 nF – 8.2 nF | 1 nF – 4.7 nF   |
| 5 – 7.2 x 7.5 x 3.5 | 270 nF – 470 nF           | 150 nF – 270 nF           |                 | 47 nF – 68 nF   | 22 nF – 39 nF   | 15 nF – 18 nF   | 5.6 nF – 82 nF  |
| 5 – 7.2 x 9.5 x 4.5 | 560 nF – 820 nF           | 330 nF – 470 nF           |                 | 82 nF – 120 nF  | 47 nF – 68 nF   | 33 nF – 39 nF   | 15 nF – 22 nF   |
| 7.5 – 10 x 10.5 x 5 | 1.2 $\mu$ F – 1.5 $\mu$ F | 820 nF – 1 $\mu$ F        |                 |                 | 180 nF – 220 nF |                 | 68 nF – 82 nF   |
| 7.5 – 10 x 8 x 3    | 330 nF – 470 nF           | 68 nF – 220 nF            |                 |                 | 22 nF – 68 nF   |                 | 6.8 nF – 27 nF  |
| 7.5 – 10 x 9 x 4    | 560 nF – 1 $\mu$ F        | 270 nF – 680 nF           |                 |                 | 82 nF – 150 nF  |                 | 33 nF – 56 nF   |
| 7.5 – 10.5 x 12 x 6 | 1.8 $\mu$ F – 3.3 $\mu$ F | 1.5 $\mu$ F – 1.8 $\mu$ F |                 |                 | 270 nF – 390 nF |                 | 100 nF – 150 nF |
| 10 – 13 x 11 x 5    | 1.5 $\mu$ F – 2.7 $\mu$ F | 1 $\mu$ F – 1.5 $\mu$ F   | 390 nF – 560 nF |                 |                 |                 |                 |
| 10 – 13 x 12 x 6    | 3.3 $\mu$ F – 3.9 $\mu$ F | 1.8 $\mu$ F               | 680 nF – 820 nF |                 |                 |                 |                 |
| 10 – 13 x 9 x 4     | 1 $\mu$ F – 1.2 $\mu$ F   | 330 nF – 820 nF           | 180 nF – 330 nF |                 |                 |                 |                 |

### Metallized Polyester (PET) (cont.)

**F622 125°C, Halogen Free, 5 mm (Stacked), 50 – 630 VDC**

Capacitance Range: 0.001 to 2.2  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/F622](http://www.kemet.com/F622)



| F               | 622                  | J                 | F                   | 104                                                                                    | M                                              | 050                                                                                   | C                          |
|-----------------|----------------------|-------------------|---------------------|----------------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series               | Lead Spacing (mm) | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                          | Rated Voltage (VDC)                                                                   | Packaging                  |
| F = Film        | Metallized Polyester | J = 5             | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | 050 = 50<br>063 = 63<br>100 = 100<br>250 = 250<br>400 = 400<br>500 = 500<br>630 = 630 | See Ordering Options Table |

| Case Size           | Voltage (VDC/VAC) |                           |                 |                 |                |                 |                 |
|---------------------|-------------------|---------------------------|-----------------|-----------------|----------------|-----------------|-----------------|
|                     | 50/30             | 63/40                     | 100/63          | 250/160         | 400/200        | 500/220         | 630/220         |
| 5 – 7.2 x 10 x 5    |                   | 1 $\mu$ F                 | 220 nF          | 100 nF          | 33 nF – 39 nF  | 10 nF           | 6.8 nF          |
| 5 – 7.2 x 11 x 6    | 2.2 $\mu$ F       | 1.2 $\mu$ F – 1.5 $\mu$ F | 270 nF – 470 nF | 120 nF – 150 nF | 47 nF – 56 nF  | 12 nF – 15 nF   | 8.2 nF – 10 nF  |
| 5 – 7.2 x 6.5 x 2.5 |                   | 100 nF – 220 nF           | 4.7 nF – 68 nF  | 1 nF – 82 nF    | 1 nF – 4.7 nF  | 1 nF – 1.8 nF   | 1 nF – 1.2 nF   |
| 5 – 7.2 x 7.5 x 3.5 |                   | 270 nF – 470 nF           | 82 nF – 100 nF  | 22 nF – 39 nF   | 5.6 nF – 15 nF | 2.2 nF – 4.7 nF | 1.5 nF – 2.7 nF |
| 5 – 7.2 x 9.5 x 4.5 |                   | 560 nF – 820 nF           | 120 nF – 180 nF | 47 nF – 82 nF   | 18 nF – 27 nF  | 5.6 nF – 8.2 nF | 3.3 nF – 5.6 nF |

# Film Capacitors – DC Film

General Purpose – Through-Hole

## Metallized Paper

**PME261 Impregnated Paper, 10.2 – 25.4 mm Lead Spacing, 400 – 1,000 VDC**

**Capacitance Range:** 0.001 to 1  $\mu$ F

**Temperature Range:** -40°C to +70°C (AC Applications) and -40°C to +100°C (DC Applications)

[www.kemet.com/PME261](http://www.kemet.com/PME261)

### Legacy Part Number System



| PME261           | K                             | A                                            | 5100                                                                                                                            | K                                              | R30                        |
|------------------|-------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|----------------------------|
| Series           | Rated Voltage (VAC)           | Lead Spacing (mm)                            | Capacitance Code (pF)                                                                                                           | Capacitance Tolerance                          | Packaging                  |
| Metallized Paper | K = 220<br>E = 300<br>J = 500 | A = 10.2<br>B = 15.2<br>C = 20.3<br>E = 25.4 | The last three digits represent significant figures. First digit specifies the total number of digits in the capacitance value. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | See Ordering Options Table |

### New KEMET Part Number System

| P               | 561                              | H                                            | E                   | 103                                                                                                                                                  | K                                              | 220                                 | A                          |
|-----------------|----------------------------------|----------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------|----------------------------|
| Capacitor Class | Series                           | Lead Spacing (mm)                            | Size Code           | Capacitance Code (pF)                                                                                                                                | Capacitance Tolerance                          | Rated Voltage (VAC)                 | Packaging                  |
| P = Paper       | Metallized Paper General Purpose | H = 10.2<br>Q = 15.2<br>C = 20.3<br>E = 25.4 | See Dimension Table | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeroes. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20% | 220 = 220<br>300 = 300<br>500 = 500 | See Ordering Options Table |

| Case Size                 | Voltage (VDC/VAC)  |               |                 |
|---------------------------|--------------------|---------------|-----------------|
|                           | 400/220            | 630/300       | 1,000/500       |
| 10.2 – 13.5 x 10.5 x 5.1  | 15 nF – 22 nF      | 10 nF – 15 nF | 4.7 nF – 6.8 nF |
| 10.2 – 13.5 x 7.5 x 3.9   | 8.2 nF – 10 nF     | 1 nF – 6.8 nF | 1 nF – 3.3 nF   |
| 15.2 – 18.5 x 10.5 x 5.2  | 33 nF – 47 nF      | 22 nF – 33 nF | 10 nF – 15 nF   |
| 15.2 – 18.5 x 13 x 7.3    | 68 nF – 100 nF     | 47 nF – 68 nF | 22 nF           |
| 15.2 – 18.5 x 13.5 x 7.8  |                    |               | 33 nF           |
| 20.3 – 24 x 14 x 7.6      | 150 nF             | 100 nF        | 47 nF           |
| 20.3 – 24 x 15 x 9        |                    | 150 nF        | 68 nF           |
| 20.3 – 24 x 16.5 x 11.3   | 330 nF             |               | 100 nF          |
| 20.3 – 24 x 14 x 8.4      | 220 nF             |               |                 |
| 25.4 – 30.5 x 17.3 x 10.6 | 470 nF             |               |                 |
| 25.4 – 30.5 x 22 x 15.3   | 680 nF – 1 $\mu$ F |               |                 |

## Polyester (PET)

### F161 Encapsulated Stacked, Size 2220 – 6560, Automotive Grade, 50 – 630 VDC

Capacitance Range: 0.01 to 2.2  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/F161](http://www.kemet.com/F161)



| F               | 161                                     | P                                                        | P                   | 103                                                                                                                                                 | K                                                                              | 050                                                                      | V                          |
|-----------------|-----------------------------------------|----------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                                  | Chip Size                                                | Size Code           | Capacitance Code (pF)                                                                                                                               | Capacitance Tolerance                                                          | Rated Voltage (VDC)                                                      | Packaging Code             |
| F = Film        | Metallized Polyester Stacked Technology | P = 2220<br>S = 2824<br>W = 4036<br>Y = 5045<br>Z = 6560 | See Dimension Table | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>M = $\pm$ 20%<br>Other tolerances on request. | 050 = 50<br>063 = 63<br>100 = 100<br>250 = 250<br>400 = 400<br>630 = 630 | See Ordering Options Table |

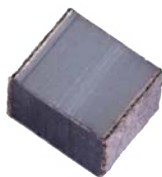
| Case Size | Voltage (VDC/VAC)         |                           |                           |                    |                 |                 |
|-----------|---------------------------|---------------------------|---------------------------|--------------------|-----------------|-----------------|
|           | 50/30                     | 63/40                     | 100/63                    | 250/160            | 400/200         | 630/250         |
| 2220      | 10 nF – 220 nF            |                           | 10 nF – 100 nF            |                    |                 |                 |
| 2824      | 10 nF – 1 $\mu$ F         | 10 nF – 470 nF            | 10 nF – 220 nF            | 10 nF – 47 nF      |                 |                 |
| 4036      | 22 nF – 2.2 $\mu$ F       | 22 nF – 1.5 $\mu$ F       | 22 nF – 1 $\mu$ F         | 22 nF – 220 nF     | 22 nF – 82 nF   |                 |
| 5045      | 2.7 $\mu$ F – 4.7 $\mu$ F | 1.8 $\mu$ F – 3.3 $\mu$ F | 1.2 $\mu$ F – 1.8 $\mu$ F | 270 nF – 470 nF    | 100 nF – 180 nF |                 |
| 6560      | 5.6 $\mu$ F – 12 $\mu$ F  | 3.9 $\mu$ F – 4.7 $\mu$ F | 2.2 $\mu$ F – 4.7 $\mu$ F | 560 nF – 1 $\mu$ F | 220 nF – 470 nF | 100 nF – 180 nF |

## Polyethylene Naphthalate (PEN)

### LDE Series Unencapsulated Stacked Chip, Size 1206 – 6054, Automotive Grade, 50 – 1,000 VDC

Capacitance Range: 0.001 to 4.7  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/LDE](http://www.kemet.com/LDE)



| LDE            | C                                                                         | C                   | 2560                                                                                                                               | M                                                         | A          | 5                             | N                          | 00            |
|----------------|---------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|------------|-------------------------------|----------------------------|---------------|
| Series         | Rated Voltage (VDC)                                                       | Size Code           | Capacitance Code (pF)                                                                                                              | Capacitance Tolerance                                     | Dielectric | Version                       | Packaging                  | Internal Use  |
| Metallized PEN | C = 50<br>D = 63<br>E = 100<br>I = 250<br>M = 400<br>P = 630<br>Q = 1,000 | See Dimension Table | Digits two – four indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added. | K = $\pm$ 10%<br>M = $\pm$ 20%<br>J = $\pm$ 5% on request | A = PEN    | 5 = Standard<br>0 = Miniature | See Ordering Options Table | 00 (Standard) |

| Case Size | Voltage (VDC/VAC)         |                           |                           |                      |                 |                 |                |
|-----------|---------------------------|---------------------------|---------------------------|----------------------|-----------------|-----------------|----------------|
|           | 50/40                     | 63/40                     | 100/63                    | 250/120              | 400/160         | 630/200         | 1,000/250      |
| 1206      | 1 nF – 33 nF              | 1 nF – 33 nF              | 1 nF – 15 nF              | 1 nF – 3.3 nF        |                 |                 |                |
| 1210      | 33 nF – 100 nF            | 33 nF – 100 nF            | 18 nF – 47 nF             | 3.9 nF – 10 nF       |                 |                 |                |
| 1812      | 1.5 nF – 220 nF           | 1.5 nF – 220 nF           | 1.5 nF – 100 nF           | 1.5 nF – 33 nF       |                 |                 |                |
| 2220      | 270 nF – 1 $\mu$ F        | 270 nF – 1 $\mu$ F        | 120 nF – 470 nF           | 18 nF – 120 nF       | 15 nF – 47 nF   | 1 nF – 18 nF    | 1 nF – 6.8 nF  |
| 2824      | 820 nF – 1.8 $\mu$ F      | 820 nF – 1.8 $\mu$ F      | 390 nF – 1 $\mu$ F        | 82 nF – 220 nF       | 56 nF – 100 nF  | 22 nF – 39 nF   | 8.2 nF – 18 nF |
| 4030      | 2.2 $\mu$ F – 3.9 $\mu$ F | 2.2 $\mu$ F – 3.9 $\mu$ F | 820 nF – 2.2 $\mu$ F      | 180 nF – 560 nF      | 120 nF – 180 nF | 47 nF – 100 nF  | 22 nF – 33 nF  |
| 5040      | 1.5 $\mu$ F – 4.7 $\mu$ F | 1.5 $\mu$ F – 4.7 $\mu$ F | 1.2 $\mu$ F – 3.3 $\mu$ F | 390 nF – 820 nF      | 220 nF – 330 nF | 100 nF – 150 nF | 39 nF – 68 nF  |
| 6054      | 3.3 $\mu$ F – 4.7 $\mu$ F | 3.3 $\mu$ F – 4.7 $\mu$ F | 2.7 $\mu$ F – 4.7 $\mu$ F | 680 nF – 1.5 $\mu$ F | 390 nF – 470 nF | 180 nF – 270 nF | 82 nF – 100 nF |

# Film Capacitors – DC Film

General Purpose – Surface Mount

## Polyethylene Naphthalate (PEN) (cont.)

GMC Encapsulated Stacked, Size 2220 – 6560, 50 – 630 VDC

Capacitance Range: 0.001 to 5.6  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/GMC](http://www.kemet.com/GMC)

### Legacy Part Number System



| GMC            | 5.7                                | 102                                                                                                                                                 | K                                                             | 50                                   | J33                 | TR12                       |
|----------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------|---------------------|----------------------------|
| Series         | Chip Length (mm)                   | Capacitance Code (pF)                                                                                                                               | Capacitance Tolerance                                         | Rated Voltage (VDC)                  | Size Code           | Packaging                  |
| Metallized PEN | 5.7<br>7.3<br>10.2<br>12.7<br>16.5 | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>Other tolerances on request. | 50<br>63<br>100<br>250<br>400<br>630 | See Dimension Table | See Ordering Options Table |

### New KEMET Part Number System

| F               | 115            | P                                                        | P                   | 102                                                                                                                                                 | K                                                             | 050                                                                      | V                          |
|-----------------|----------------|----------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series         | Chip Size                                                | Size Code           | Capacitance Code (pF)                                                                                                                               | Capacitance Tolerance                                         | Rated Voltage (VDC)                                                      | Packaging                  |
| F = Film        | Metallized PEN | P = 2220<br>S = 2824<br>W = 4036<br>Y = 5045<br>Z = 6560 | See Dimension Table | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | J = $\pm$ 5%<br>K = $\pm$ 10%<br>Other tolerances on request. | 050 = 50<br>063 = 63<br>100 = 100<br>250 = 250<br>400 = 400<br>630 = 630 | See Ordering Options Table |

| Case Size | Voltage (VDC/VAC)         |                           |                      |                 |                 |                |
|-----------|---------------------------|---------------------------|----------------------|-----------------|-----------------|----------------|
|           | 50/30                     | 63/40                     | 100/63               | 250/160         | 400/200         | 630/300        |
| 2220      | 1 nF – 180 nF             |                           | 1 nF – 47 nF         | 1 nF – 22 nF    |                 |                |
| 2824      |                           | 1 nF – 390 nF             | 1 nF – 100 nF        | 1 nF – 39 nF    | 1 nF – 15 nF    |                |
| 4036      | 22 nF – 1.2 $\mu$ F       | 22 nF – 820 nF            | 22 nF – 330 nF       | 22 nF – 150 nF  | 22 nF – 47 nF   | 22 nF          |
| 5045      | 1.5 $\mu$ F – 3 $\mu$ F   | 1 $\mu$ F – 1.5 $\mu$ F   | 390 nF – 680 nF      | 180 nF – 330 nF | 56 nF – 100 nF  | 27 nF – 56 nF  |
| 6560      | 3.9 $\mu$ F – 5.6 $\mu$ F | 1.8 $\mu$ F – 4.7 $\mu$ F | 820 nF – 2.2 $\mu$ F | 390 nF – 680 nF | 120 nF – 330 nF | 68 nF – 150 nF |

## Polyethylene Naphthalate (PEN) (cont.)

GPC Encapsulated Double Metallized, Size 2824 – 6560, 63 – 1,000 VDC

Capacitance Range: 470 pF to 1.0  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/GPC](http://www.kemet.com/GPC)

### Legacy Part Number System



| GPC                   | 7.3                         | 471                                                                                                                                                 | K                                                                | 63                                             | K33                 | TR12                       |
|-----------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------|---------------------|----------------------------|
| Series                | Chip Length (mm)            | Capacitance Code (pF)                                                                                                                               | Capacitance Tolerance                                            | Rated Voltage (VDC)                            | Size Code           | Packaging                  |
| Double Metallized PEN | 7.3<br>10.2<br>12.7<br>16.5 | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | K = $\pm 10\%$<br>M = $\pm 20\%$<br>Other tolerances on request. | 63<br>100<br>160<br>250<br>400<br>630<br>1,000 | See Dimension Table | See Ordering Options Table |

### New KEMET Part Number System

| F               | 117                   | S                                            | L                   | 471                                                                                                                                                 | K                                                                | 063                                                                                      | V                          |
|-----------------|-----------------------|----------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                | Chip Size                                    | Size Code           | Capacitance Code (pF)                                                                                                                               | Capacitance Tolerance                                            | Rated Voltage (VDC)                                                                      | Packaging                  |
| F = Film        | Double Metallized PEN | S = 2824<br>W = 4036<br>Y = 5045<br>Z = 6560 | See Dimension Table | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | K = $\pm 10\%$<br>M = $\pm 20\%$<br>Other tolerances on request. | 063 = 63<br>100 = 100<br>160 = 160<br>250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1,000 | See Ordering Options Table |

| Case Size | Voltage (VDC/VAC)  |                    |                 |                 |                 |                  |                  |
|-----------|--------------------|--------------------|-----------------|-----------------|-----------------|------------------|------------------|
|           | 63/40              | 100/63             | 160/100         | 250/160         | 400/200         | 630/300          | 1,000/350        |
| 2824      | 0.47 nF – 100 nF   | 0.47 nF – 47 nF    | 0.47 nF – 33 nF | 0.47 nF – 22 nF | 0.47 nF – 10 nF | 0.47 nF – 6.8 nF | 0.47 nF – 4.7 nF |
| 4036      | 6.8 nF – 330 nF    | 6.8 nF – 150 nF    | 6.8 nF – 100 nF | 6.8 nF – 68 nF  | 6.8 nF – 27 nF  | 6.8 nF – 22 nF   | 6.8 nF – 15 nF   |
| 5045      | 470 nF             | 220 nF – 330 nF    | 150 nF – 220 nF | 100 nF – 150 nF | 33 nF – 68 nF   | 33 nF – 47 nF    | 22 nF – 33 nF    |
| 6560      | 680 nF – 1 $\mu$ F | 470 nF – 1 $\mu$ F | 330 nF – 680 nF | 220 nF – 470 nF | 100 nF – 220 nF | 68 nF – 100 nF   | 47 nF – 68 nF    |

# Film Capacitors – DC Film

General Purpose – Surface Mount

## Metallized Polyphenylene Sulfide (PPS)

SPC Encapsulated Double Metallized, Size 2824 – 6560, 100 – 630 VDC

Capacitance Range: 470 pF to 0.68  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/SPC](http://www.kemet.com/SPC)

### Legacy Part Number System



| SPC                   | 7.3                         | 471                                                                                        | K                                                                   | 100                      | K33                 | TR12                       |
|-----------------------|-----------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------|---------------------|----------------------------|
| Series                | Chip Length (mm)            | Capacitance Code (pF)                                                                      | Capacitance Tolerance                                               | Rated Voltage (VDC)      | Size Code           | Packaging                  |
| Double Metallized PPS | 7.3<br>10.2<br>12.7<br>16.5 | First two digits represent significant figures. The third digit specifies number of zeros. | G = $\pm 2\%$<br>H = $\pm 2.5\%$<br>J = $\pm 5\%$<br>K = $\pm 10\%$ | 100<br>250<br>400<br>630 | See Dimension Table | See Ordering Options Table |

### New KEMET Part Number System

| F               | 127                   | S                                            | L                   | 471                                                                                        | K                                                                   | 100                      | V                          |
|-----------------|-----------------------|----------------------------------------------|---------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------|----------------------------|
| Capacitor Class | Series                | Chip Size                                    | Size Code           | Capacitance Code (pF)                                                                      | Capacitance Tolerance                                               | Rated Voltage (VDC)      | Packaging                  |
| F = Film        | Double Metallized PPS | S = 2824<br>W = 4036<br>Y = 5045<br>Z = 6560 | See Dimension Table | First two digits represent significant figures. The third digit specifies number of zeros. | G = $\pm 2\%$<br>R = $\pm 2.5\%$<br>J = $\pm 5\%$<br>K = $\pm 10\%$ | 100<br>250<br>400<br>630 | See Ordering Options Table |

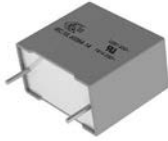
| Case Size | Voltage (VDC/VAC) |                 |                  |                  |
|-----------|-------------------|-----------------|------------------|------------------|
|           | 100/63            | 250/160         | 400/250          | 630/350          |
| 2824      | 0.47 nF – 33 nF   | 0.47 nF – 15 nF | 0.47 nF – 6.8 nF | 0.47 nF – 4.7 nF |
| 4036      | 6.8 nF – 100 nF   | 6.8 nF – 47 nF  | 6.8 nF – 22 nF   | 6.8 nF – 15 nF   |
| 5045      | 150 nF – 220 nF   | 68 nF – 100 nF  | 33 nF – 47 nF    | 22 nF – 33 nF    |
| 6560      | 330 nF – 680 nF   | 150 nF – 330 nF | 68 nF – 150 nF   | 47 nF – 100 nF   |

## RC Network – Metallized Polypropylene

### F43 Integrated Resistor Metallized Polypropylene, 250 – 630 VDC

Capacitance Range: 0.01 to 1.0  $\mu$ F • Temperature Range: -55°C to +100°C

[www.kemet.com/F43](http://www.kemet.com/F43)



| F                                                 | 43                                   | K                                             | N                                | 3100                                                                                                        | XX                                                   | 01                    | M                                |
|---------------------------------------------------|--------------------------------------|-----------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------|----------------------------------|
| Capacitor Class                                   | Series                               | Rated Voltage (VAC)                           | Lead Spacing (mm)                | Capacitance Code (pF)                                                                                       | Packaging                                            | Internal Use          | Capacitance Tolerance            |
| Legacy PN: F<br>New KEMET PN: Omit this character | RC Snubber, Metallized Polypropylene | I = 160<br>M = 200<br>P = 220<br>K = 275 (X2) | I = 15.0<br>N = 22.5<br>R = 27.5 | The last three digits represent significant figures. The first digit specifies number of zeros to be added. | Contact KEMET for packaging availability and details | 00, 01, 04 (Standard) | K = $\pm 10\%$<br>M = $\pm 20\%$ |

| Case Size               | Voltage (VDC/VAC) |           |         |
|-------------------------|-------------------|-----------|---------|
|                         | 250/160           | 400/200   | 630/220 |
| 15 – 18 x 14.5 x 8.5    | 250 nF            |           |         |
| 15 – 18 x 14.5 x 7.5    |                   |           | 22 nF   |
| 22.5 – 26.5 x 15 x 6    | 330 nF            |           |         |
| 22.5 – 26.5 x 17 x 8.5  | 470 nF – 500 nF   |           |         |
| 22.5 – 26.5 x 18.5 x 10 | 1 $\mu$ F         | 500 nF    |         |
| 22.5 – 26.5 x 16 x 7    |                   | 250 nF    | 100 nF  |
| 22.5 – 26.5 x 20 x 11   |                   |           | 250 nF  |
| 27.5 – 32 x 22 x 13     |                   | 1 $\mu$ F | 500 nF  |

(X2)

| Case Size              | Voltage (VDC/VAC)  |
|------------------------|--------------------|
|                        | 800/275            |
| 15 – 18 x 14.5 x 7.5   | 10 nF – 47 nF      |
| 15 – 18 x 16 x 10      | 68 nF              |
| 22.5 – 26.5 x 17 x 8.5 | 100 nF             |
| 22.5 – 26.5 x 20 x 10  | 150 nF             |
| 22.5 – 26.5 x 20 x 11  | 220 nF             |
| 27.5 – 32 x 20 x 11    | 250 nF – 330 nF    |
| 27.5 – 32 x 22 x 13    | 470 nF – 500 nF    |
| 27.5 – 32 x 33 x 18    | 680 nF – 1 $\mu$ F |

# Film Capacitors – DC Film

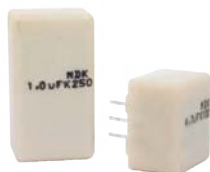
## General Purpose – Specialty Components

### Dual In-Line Polyester – Through-Hole

**MDK High Current, 50 – 630 VDC**

Capacitance Range: 0.033 to 15  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/MDK](http://www.kemet.com/MDK)



#### Legacy Part Number System

| MDK                                | 10                | 333                                                                                                                                                 | K                                                           | 50                             | A52                 | P3                                                                           | TUBE                       |
|------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------|---------------------|------------------------------------------------------------------------------|----------------------------|
| Series                             | Lead Spacing (mm) | Capacitance Code (pF)                                                                                                                               | Capacitance Tolerance                                       | Rated Voltage (VDC)            | Size Code           | Number of Leads per Side                                                     | Packaging                  |
| Dual In-Line, Metallized Polyester | 10<br>15          | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | J = $\pm$ 5<br>K = $\pm$ 10%<br>Other tolerances on request | 50<br>100<br>250<br>400<br>630 | See Dimension Table | P3 = 3 leads<br>P4 = 4 leads<br>P5 = 5 leads<br>P7 = 7 leads<br>P8 = 8 leads | See Ordering Options Table |

#### New KEMET Part Number System

| F               | 68                                 | 3                                                                       | A                 | A                     | 333                                                                                                                                                 | K                                                           | 050                                                          | T                          |
|-----------------|------------------------------------|-------------------------------------------------------------------------|-------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                             | Number of Leads per Side                                                | Lead Spacing (mm) | Size Code             | Capacitance Code (pF)                                                                                                                               | Capacitance Tolerance                                       | Rated Voltage (VDC)                                          | Packaging                  |
| F = Film        | Dual In-Line, Metallized Polyester | 3 = 3 leads<br>4 = 4 leads<br>5 = 5 leads<br>7 = 7 leads<br>8 = 8 leads | A = 10<br>B = 15  | A = Standard box size | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | J = $\pm$ 5<br>K = $\pm$ 10%<br>Other tolerances on request | 050 = 50<br>100 = 100<br>250 = 250<br>400 = 400<br>630 = 630 | See Ordering Options Table |

| Case Size | Voltage (VDC/VAC)        |                           |                          |                           |                 |                |
|-----------|--------------------------|---------------------------|--------------------------|---------------------------|-----------------|----------------|
|           | 50/30                    | 100/35                    | 100/63                   | 250/160                   | 400/200         | 630/220        |
| A52       | 33 nF – 4.7 $\mu$ F      | 2.7 $\mu$ F – 3.9 $\mu$ F | 33 nF – 2.2 $\mu$ F      | 33 nF – 470 nF            | 33 nF – 180 nF  | 33 nF – 56 nF  |
| A53       |                          | 4.7 $\mu$ F               |                          |                           |                 |                |
| A54       | 5.6 $\mu$ F              | 4.7 $\mu$ F               |                          | 560 nF                    |                 | 68 nF          |
| A55       | 6.8 $\mu$ F              | 5.6 $\mu$ F               |                          | 680 nF                    |                 |                |
| A57       | 8.2 $\mu$ F – 10 $\mu$ F |                           | 6.8 $\mu$ F              | 820 nF – 1 $\mu$ F        | 220 nF – 330 nF |                |
| A58       | 12 $\mu$ F – 15 $\mu$ F  |                           | 8.2 $\mu$ F – 10 $\mu$ F | 1.2 $\mu$ F – 1.5 $\mu$ F | 390 nF – 470 nF | 82 nF – 180 nF |
| B53       | 33 nF – 6.8 $\mu$ F      | 4.7 $\mu$ F               | 33 nF – 3.9 $\mu$ F      | 33 nF – 680 nF            | 33 nF – 270 nF  | 33 nF – 100 nF |
| B55       |                          | 5.6 $\mu$ F               |                          |                           | 330 nF          |                |

## Dual In-Line Polyester – Surface Mount

**MDC High Current, 50 – 630 VDC**

Capacitance Range: 0.033 to 15  $\mu\text{F}$  • Temperature Range: -55°C to +125°C

[www.kemet.com/MDC](http://www.kemet.com/MDC)

### Legacy Part Number System



| MDC                                | 10                | 333                                                                                                                                                 | K                                                               | 50                             | A52                 | P3                                                                           | TUBE                       |
|------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------|---------------------|------------------------------------------------------------------------------|----------------------------|
| Series                             | Lead Spacing (mm) | Capacitance Code (pF)                                                                                                                               | Capacitance Tolerance                                           | Rated Voltage (VDC)            | Size Code           | Number of Leads per Side                                                     | Packaging                  |
| Dual In-Line, Metallized Polyester | 10<br>15          | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>Other tolerances on request. | 50<br>100<br>250<br>400<br>630 | See Dimension Table | P3 = 3 leads<br>P4 = 4 leads<br>P5 = 5 leads<br>P7 = 7 leads<br>P8 = 8 leads | See Ordering Options Table |

### New KEMET Part Number System

| F               | 15                                 | 3                                                                       | A                 | A                     | 333                                                                                                                                                 | K                                                              | 050                                                          | T                          |
|-----------------|------------------------------------|-------------------------------------------------------------------------|-------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                             | Number of Leads per Side                                                | Lead Spacing (mm) | Size Code             | Capacitance Code (pF)                                                                                                                               | Capacitance Tolerance                                          | Rated Voltage (VDC)                                          | Packaging                  |
| F = Film        | Dual In-Line, Metallized Polyester | 3 = 3 leads<br>4 = 4 leads<br>5 = 5 leads<br>7 = 7 leads<br>8 = 8 leads | A = 10<br>B = 15  | A = Standard box size | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>Other tolerances on request | 050 = 50<br>100 = 100<br>250 = 250<br>400 = 400<br>630 = 630 | See Ordering Options Table |

| Case Size | Voltage (VDC/VAC)                    |                                      |                                       |                 |                |
|-----------|--------------------------------------|--------------------------------------|---------------------------------------|-----------------|----------------|
|           | 50/30                                | 100/63                               | 250/160                               | 400/200         | 630/220        |
| A52       | 33 nF – 4.7 $\mu\text{F}$            | 33 nF – 3.9 $\mu\text{F}$            | 33 nF – 470 nF                        | 33 nF – 180 nF  | 33 nF – 56 nF  |
| A53       |                                      | 4.7 $\mu\text{F}$                    |                                       |                 |                |
| A54       | 5.6 $\mu\text{F}$                    | 4.7 $\mu\text{F}$                    | 560 nF                                |                 | 68 nF          |
| A55       | 6.8 $\mu\text{F}$                    | 5.6 $\mu\text{F}$                    | 680 nF                                |                 |                |
| A57       | 8.2 $\mu\text{F}$ – 10 $\mu\text{F}$ | 6.8 $\mu\text{F}$                    | 820 nF – 1 $\mu\text{F}$              | 220 nF – 330 nF |                |
| A58       | 12 $\mu\text{F}$ – 15 $\mu\text{F}$  | 8.2 $\mu\text{F}$ – 10 $\mu\text{F}$ | 1.2 $\mu\text{F}$ – 1.5 $\mu\text{F}$ | 390 nF – 470 nF | 82 nF – 180 nF |
| B53       | 33 nF – 6.8 $\mu\text{F}$            | 33 nF – 4.7 $\mu\text{F}$            | 33 nF – 680 nF                        | 33 nF – 270 nF  | 33 nF – 100 nF |
| B55       |                                      | 5.6 $\mu\text{F}$                    |                                       | 330 nF          |                |

# Film Capacitors – DC Film

## General Purpose – Specialty Components

### Dual In-Line Polyester – Surface Mount (cont.)

**MDS Low Profile, High Current, 50 – 630 VDC**

Capacitance Range: 0.033 to 6.8  $\mu$ F • Temperature Range: -55°C to +125°C

[www.kemet.com/MDS](http://www.kemet.com/MDS)

#### Legacy Part Number System



| MDS                                | 10                | 333                                                                                                                                                 | K                                                            | 50                                                           | A52                 | P3                                           | TUBE                       |
|------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|---------------------|----------------------------------------------|----------------------------|
| Series                             | Lead Spacing (mm) | Capacitance Code (pF)                                                                                                                               | Capacitance Tolerance                                        | Rated Voltage (VDC)                                          | Size Code           | Number of Leads per Side                     | Packaging                  |
| Dual In-Line, Metallized Polyester | 10<br>15          | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | J = $\pm$ 5<br>K = $\pm$ 10%<br>Other tolerances on request. | 050 = 50<br>100 = 100<br>250 = 250<br>400 = 400<br>630 = 630 | See Dimension Table | P3 = 3 leads<br>P4 = 4 leads<br>P5 = 5 leads | See Ordering Options Table |

#### New KEMET Part Number System

| F               | 17                                 | 3                                         | A                 | A                     | 333                                                                                                                                                 | K                                                           | 050                                                          | T                          |
|-----------------|------------------------------------|-------------------------------------------|-------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                             | Number of Leads per Side                  | Lead Spacing (mm) | Size Code             | Capacitance Code (pF)                                                                                                                               | Capacitance Tolerance                                       | Rated Voltage (VDC)                                          | Packaging                  |
| F = Film        | Dual In-Line, Metallized Polyester | 3 = 3 leads<br>4 = 4 leads<br>5 = 5 leads | A = 10<br>B = 15  | A = Standard box size | First two digits indicate the two most significant digits of the capacitance value in picofarads. The third digit is the number of following zeros. | J = $\pm$ 5<br>K = $\pm$ 10%<br>Other tolerances on request | 050 = 50<br>100 = 100<br>250 = 250<br>400 = 400<br>630 = 630 | See Ordering Options Table |

| Case Size | Voltage (VDC/VAC)   |                     |                |                |                |
|-----------|---------------------|---------------------|----------------|----------------|----------------|
|           | 50/30               | 100/63              | 250/160        | 400/200        | 630/220        |
| A52       | 33 nF – 4.7 $\mu$ F | 33 nF – 3.9 $\mu$ F | 33 nF – 470 nF | 33 nF – 180 nF | 33 nF – 56 nF  |
| A54       | 5.6 $\mu$ F         | 4.7 $\mu$ F         | 560 nF         |                | 68 nF          |
| A55       | 6.8 $\mu$ F         | 5.6 $\mu$ F         | 680 nF         |                |                |
| B53       | 33 nF – 6.8 $\mu$ F | 33 nF – 4.7 $\mu$ F | 33 nF – 680 nF | 33 nF – 270 nF | 33 nF – 100 nF |
| B55       |                     | 5.6 $\mu$ F         |                | 330 nF         |                |

### Axial

#### C4G Axial Round, 250 – 850 VDC/160 – 450 VAC

Capacitance Range: 0.15 to 40  $\mu$ F • Temperature Range: -40°C to +85°C

[www.kemet.com/C4G](http://www.kemet.com/C4G)



| C4                  | G                                     | A                                                        | D                                                   | U                                                                     | B                             | 4100                                                                                                                          | AA                                                          | 4                                                | J                 |
|---------------------|---------------------------------------|----------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------|-------------------|
| Series              | Type                                  | Fire Protection                                          | Rated Voltage (VDC)                                 | Insulation                                                            | Lead Diameter (mm)            | Capacitance Code ( $\mu$ F)                                                                                                   | Packaging                                                   | Capacitor Length (mm)                            | Tolerance         |
| C4 = MKP Capacitors | G = Round body, switching application | A = No fire retardant<br>S = Fire retardant (on request) | D = 250<br>F = 400<br>H = 600<br>J = 700<br>M = 850 | U = Polyester tape & resin protection<br>0 = Uninsulated (on request) | B = 0.8<br>C = 1.0<br>D = 1.2 | Digits 2 – 4 indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added. | AA = Bulk (Bag)<br>– Straight Leads<br>see Dimensions Table | 4 = 20.5<br>5 = 28<br>0 = 33<br>1 = 44<br>3 = 58 | J = 5%<br>K = 10% |

| Case Size | Voltage (VDC/VAC) |             |             |             |           |
|-----------|-------------------|-------------|-------------|-------------|-----------|
|           | 250/160           | 400/250     | 600/330     | 700/400     | 850/450   |
| 9.5 x 28  |                   | 470 nF      |             |             |           |
| 10 x 33   |                   | 680 nF      |             |             | 150 nF    |
| 11 x 20.5 | 1 $\mu$ F         |             |             |             |           |
| 11 x 33   |                   |             | 470 nF      |             |           |
| 11.5 x 33 | 2.2 $\mu$ F       |             |             |             |           |
| 12 x 33   | 2.5 $\mu$ F       | 1 $\mu$ F   |             |             | 220 nF    |
| 13 x 33   |                   |             | 680 nF      |             |           |
| 13.5 x 33 | 3 $\mu$ F         |             |             |             |           |
| 14 x 33   | 3.3 $\mu$ F       |             |             |             |           |
| 14.5 x 33 |                   | 1.5 $\mu$ F |             | 470 nF      | 330 nF    |
| 15.5 x 33 | 4 $\mu$ F         |             | 1 $\mu$ F   |             |           |
| 16.5 x 33 |                   | 2 $\mu$ F   |             |             |           |
| 17 x 33   | 5 $\mu$ F         |             |             | 680 nF      | 470 nF    |
| 17.5 x 33 |                   | 2.2 $\mu$ F |             |             |           |
| 18 x 44   |                   | 3.3 $\mu$ F |             |             |           |
| 18.5 x 33 |                   | 2.5 $\mu$ F |             |             |           |
| 18.5 x 44 |                   |             | 2 $\mu$ F   |             |           |
| 19.5 x 33 | 6.8 $\mu$ F       |             |             |             |           |
| 19.5 x 44 |                   | 4 $\mu$ F   | 2.2 $\mu$ F |             |           |
| 20 x 33   |                   | 3 $\mu$ F   |             |             |           |
| 20 x 44   | 10 $\mu$ F        |             |             |             |           |
| 20.5 x 33 |                   |             |             | 1 $\mu$ F   | 680 nF    |
| 20.5 x 44 |                   |             |             | 1.5 $\mu$ F | 1 $\mu$ F |
| 21 x 44   |                   | 4.7 $\mu$ F |             |             |           |

| Case Size | Voltage (VDC/VAC) |             |             |             |             |
|-----------|-------------------|-------------|-------------|-------------|-------------|
|           | 250/160           | 400/250     | 600/330     | 700/400     | 850/450     |
| 21.5 x 44 |                   | 5 $\mu$ F   |             |             |             |
| 22.5 x 44 |                   |             | 3 $\mu$ F   |             |             |
| 23.5 x 44 |                   |             | 3.3 $\mu$ F | 2 $\mu$ F   |             |
| 24.5 x 44 | 15 $\mu$ F        |             |             | 2.2 $\mu$ F | 1.5 $\mu$ F |
| 25 x 44   |                   | 6.8 $\mu$ F |             |             |             |
| 25.5 x 44 |                   |             | 4 $\mu$ F   |             |             |
| 27.5 x 44 |                   |             | 4.7 $\mu$ F |             |             |
| 28 x 44   | 20 $\mu$ F        |             |             |             |             |
| 28 x 58   |                   |             |             |             | 3 $\mu$ F   |
| 28.5 x 44 |                   |             | 5 $\mu$ F   | 3 $\mu$ F   | 2 $\mu$ F   |
| 28.5 x 58 |                   |             | 6.8 $\mu$ F |             |             |
| 29 x 58   | 30 $\mu$ F        |             |             |             |             |
| 29.5 x 44 |                   |             |             |             | 2.2 $\mu$ F |
| 29.5 x 58 |                   |             |             | 4.7 $\mu$ F | 3.3 $\mu$ F |
| 30 x 44   |                   | 10 $\mu$ F  |             | 3.3 $\mu$ F |             |
| 30.5 x 58 |                   |             |             | 5 $\mu$ F   |             |
| 31 x 44   | 25 $\mu$ F        |             |             |             |             |
| 31.5 x 44 |                   |             |             |             | 2.5 $\mu$ F |
| 31.5 x 58 |                   | 15 $\mu$ F  |             |             |             |
| 32.5 x 58 |                   |             |             |             | 4 $\mu$ F   |
| 33 x 44   |                   |             |             | 4 $\mu$ F   |             |
| 33.5 x 58 | 40 $\mu$ F        |             |             |             |             |
| 34.5 x 58 |                   |             | 10 $\mu$ F  |             |             |
| 35 x 58   |                   | 20 $\mu$ F  |             | 6.8 $\mu$ F |             |

# Film Capacitors – Power AC

Polypropylene – Through-Hole

## Axial (cont.)

### C4C Axial Round, 850 – 3,000 VDC/450 – 750 VAC

Capacitance Range: 0.0068 to 2.5  $\mu$ F • Temperature Range: -40°C to +85°C

[www.kemet.com/C4C](http://www.kemet.com/C4C)



| C4                  | C                                   | A                                                        | M                                              | U                                                                       | B                             | 3100                                                                                                                               | AA                                                         | 0                          | J                 |
|---------------------|-------------------------------------|----------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------|-------------------|
| Series              | Type                                | Fire Protection                                          | Rated Voltage (VDC)                            | Insulation                                                              | Lead Diameter (mm)            | Capacitance Code (pF)                                                                                                              | Packaging                                                  | Capacitor Length (mm)      | Tolerance         |
| C4 = MKP Capacitors | C = Round body, snubber application | A = No fire retardant<br>S = Fire retardant (on request) | M = 850<br>P = 1,200<br>W = 2,000<br>Y = 3,000 | U = Polyester tape and resin protection<br>0 = Uninsulated (on request) | B = 0.8<br>C = 1.0<br>D = 1.2 | Digits two – four indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added. | AA = Bulk (Bag)<br>– Straight Leads see "Dimensions Table" | 0 = 33<br>1 = 44<br>3 = 58 | J = 5%<br>K = 10% |

| Case Size | Voltage (VDC/VAC) |             |           |           |
|-----------|-------------------|-------------|-----------|-----------|
|           | 850/450           | 1,200/500   | 2,000/630 | 3,000/750 |
| 10 x 33   |                   | 47 nF       |           | 6.8 nF    |
| 10.5 x 33 | 100 nF            |             | 22 nF     |           |
| 12 x 33   |                   | 68 nF       |           | 10 nF     |
| 12.5 x 33 | 150 nF            |             | 33 nF     |           |
| 14 x 33   |                   | 100 nF      |           |           |
| 14.5 x 33 |                   |             |           | 15 nF     |
| 15 x 33   |                   |             | 47 nF     |           |
| 15.5 x 33 | 220 nF            |             |           |           |
| 17 x 33   |                   |             |           | 22 nF     |
| 17.5 x 33 |                   | 150 nF      | 68 nF     |           |
| 18.5 x 33 | 330 nF            |             |           |           |
| 19 x 44   |                   |             |           | 47 nF     |
| 19.5 x 44 |                   |             | 150 nF    |           |
| 20 x 44   |                   | 330 nF      |           |           |
| 20.5 x 33 |                   | 220 nF      | 100 nF    | 33 nF     |
| 21 x 44   | 680 nF            |             |           |           |
| 21.5 x 33 | 470 nF            |             |           |           |
| 22.5 x 44 |                   |             |           | 68 nF     |
| 23 x 44   |                   | 470 nF      |           |           |
| 23.5 x 44 |                   |             | 220 nF    |           |
| 25 x 44   | 1 $\mu$ F         |             |           |           |
| 27 x 44   |                   |             |           | 100 nF    |
| 27.5 x 44 |                   | 680 nF      |           |           |
| 28.5 x 44 |                   |             | 330 nF    |           |
| 28.5 x 58 | 2 $\mu$ F         |             |           |           |
| 29 x 58   |                   | 1.2 $\mu$ F | 560 nF    |           |
| 29.5 x 58 | 2.2 $\mu$ F       |             |           |           |
| 30.5 x 44 | 1.5 $\mu$ F       |             |           |           |
| 31 x 58   |                   |             |           | 220 nF    |
| 31.5 x 58 | 2.5 $\mu$ F       |             |           |           |
| 32 x 44   |                   |             |           | 150 nF    |
| 32 x 58   |                   | 1.5 $\mu$ F | 680 nF    |           |
| 33 x 44   |                   | 1 $\mu$ F   |           |           |
| 33.5 x 44 |                   |             | 470 nF    |           |

### Radial Box

#### C4AE, 2 or 4 Leads, for DC Link, 450 – 1,100 VDC

Capacitance Range: 1 to 100  $\mu\text{F}$  • Temperature Range: -40°C to +105°C

[www.kemet.com/C4AE](http://www.kemet.com/C4AE)



| C4                        | A                       | E           | Q                                                     | B                     | W                        | 5270                                                                                                                               | A                  | 3                             | N                                                                                                                                                                                                                  | J                 |
|---------------------------|-------------------------|-------------|-------------------------------------------------------|-----------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| Series                    | Type                    | Application | Rated Voltage (VDC)                                   | Case                  | Terminals Code           | Capacitance Code (pF)                                                                                                              | C-Spec             | Lead Diameter (mm)            | Size Code: B x H x L (mm)                                                                                                                                                                                          | Tolerance         |
| C4 = MKP Power Capacitors | A = Box, Wire Terminals | E = DC Link | G = 450<br>H = 600<br>J = 700<br>O = 900<br>Q = 1,100 | B = Box, Plastic Case | U = 2 pins<br>W = 4 pins | Digits two – four indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added. | A = Standard Grade | 1 = 0.8<br>2 = 1.0<br>3 = 1.2 | W = 11 x 20 x 31.5<br>X = 13 x 25 x 31.5<br>Y = 14 x 28 x 31.5<br>1 = 19 x 29 x 31.5<br>2 = 22 x 37 x 31.5<br>F = 20 x 40 x 42<br>J = 28 x 37 x 42<br>L = 30 x 45 x 42<br>M = 30 x 45 x 57.5<br>N = 35 x 50 x 57.5 | J = 5%<br>K = 10% |

| Case Size             | Voltage                             |                   |                                     |                   |                                     |
|-----------------------|-------------------------------------|-------------------|-------------------------------------|-------------------|-------------------------------------|
|                       | 450 VDC                             | 600 VDC           | 700 VDC                             | 900 VDC           | 1,100 VDC                           |
| 27.5 – 31.5 x 20 x 11 | 4.5 $\mu\text{F}$                   | 3.3 $\mu\text{F}$ | 2.7 $\mu\text{F}$                   | 1.5 $\mu\text{F}$ | 1 $\mu\text{F}$                     |
| 27.5 – 31.5 x 25 x 13 | 6.8 $\mu\text{F}$                   | 5.6 $\mu\text{F}$ | 4 $\mu\text{F}$                     | 2.7 $\mu\text{F}$ | 1.8 $\mu\text{F}$                   |
| 27.5 – 31.5 x 28 x 14 | 10 $\mu\text{F}$                    | 7 $\mu\text{F}$   | 5 $\mu\text{F}$                     | 3.3 $\mu\text{F}$ | 2.2 $\mu\text{F}$                   |
| 27.5 – 31.5 x 29 x 19 | 12.5 $\mu\text{F}$                  | 10 $\mu\text{F}$  | 8 $\mu\text{F}$                     | 5 $\mu\text{F}$   | 3.3 $\mu\text{F}$                   |
| 27.5 – 31.5 x 37 x 22 | 20 $\mu\text{F}$                    | 15 $\mu\text{F}$  | 12.5 $\mu\text{F}$                  | 8 $\mu\text{F}$   | 5 $\mu\text{F}$                     |
| 37.5 – 42 x 37 x 28   | 35 $\mu\text{F}$ – 50 $\mu\text{F}$ | 30 $\mu\text{F}$  | 20 $\mu\text{F}$                    | 14 $\mu\text{F}$  | 10 $\mu\text{F}$                    |
| 37.5 – 42 x 40 x 20   | 30 $\mu\text{F}$ – 40 $\mu\text{F}$ | 20 $\mu\text{F}$  | 15 $\mu\text{F}$                    | 12 $\mu\text{F}$  | 8 $\mu\text{F}$                     |
| 37.5 – 42 x 45 x 30   | 50 $\mu\text{F}$                    | 40 $\mu\text{F}$  | 30 $\mu\text{F}$                    | 20 $\mu\text{F}$  | 12 $\mu\text{F}$                    |
| 37.5 – 42 x 44 x 24   | 40 $\mu\text{F}$ – 55 $\mu\text{F}$ |                   | 22 $\mu\text{F}$                    | 16 $\mu\text{F}$  |                                     |
| 52.5 – 57.5 x 45 x 30 | 75 $\mu\text{F}$                    | 55 $\mu\text{F}$  | 45 $\mu\text{F}$                    | 30 $\mu\text{F}$  | 20 $\mu\text{F}$                    |
| 52.5 – 57.5 x 50 x 35 | 100 $\mu\text{F}$                   | 75 $\mu\text{F}$  | 55 $\mu\text{F}$ – 60 $\mu\text{F}$ | 40 $\mu\text{F}$  | 25 $\mu\text{F}$ – 27 $\mu\text{F}$ |

# Film Capacitors – Power AC

Polypropylene – Through-Hole

## Radial Box (cont.)

**C4AS, 2 or 4 Leads, 850 – 3,000 VDC/500 – 750 VAC**

Capacitance Range: 0.022 to 5  $\mu$ F • Temperature Range: -40°C to +85°C

[www.kemet.com/C4AS](http://www.kemet.com/C4AS)



| C4                  | AS                                   | M                                                           | B                                        | U                        | 3150                                                                                                                               | A3                   | A                   | J                 |
|---------------------|--------------------------------------|-------------------------------------------------------------|------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------|
| Series              | Type                                 | Rated Voltage (VDC)                                         | Case                                     | Number of Leads          | Capacitance Code (pF)                                                                                                              | Lead Diameter (mm)   | Size Code           | Tolerance         |
| C4 = MKP Capacitors | AS = Radial box, snubber application | M = 850<br>N = 1,000<br>P = 1,200<br>W = 2,000<br>Y = 3,000 | B = Plastic box with epoxy resin sealing | U = 2 lead<br>W = 4 lead | Digits two – four indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added. | A1 = 0.8<br>A3 = 1.2 | See Dimension Table | J = 5%<br>K = 10% |

| Case Size             | Voltage (VDC/VAC)     |                         |                         |                 |               |
|-----------------------|-----------------------|-------------------------|-------------------------|-----------------|---------------|
|                       | 850/500               | 1,000/600               | 1,200/630               | 2,000/700       | 3,000/750     |
| 27.5 – 32 x 20 x 10   | 150 nF                | 150 nF                  | 100 nF                  | 33 nF – 47 nF   | 22 nF         |
| 27.5 – 32 x 22 x 13   | 220 nF                | 220 nF                  | 150 nF                  | 68 nF           | 33 nF         |
| 27.5 – 32 x 28 x 14   | 330 nF                | 330 nF                  | 220 nF                  | 100 nF          | 47 nF – 68 nF |
| 27.5 – 32 x 33 x 18   | 470 nF                | 470 nF                  | 330 nF                  | 150 nF – 220 nF | 100 nF        |
| 27.5 – 32 x 37 x 22   | 680 nF                | 680 nF                  | 470 nF                  |                 | 150 nF        |
| 37.5 – 41.5 x 40 x 20 | 1 $\mu$ F             | 1 $\mu$ F               | 680 nF – 1 $\mu$ F      | 330 nF          | 220 nF        |
| 37.5 – 41.5 x 44 x 24 | 2 $\mu$ F             |                         |                         | 680 nF          | 330 nF        |
| 37.5 – 42 x 45 x 30   |                       | 2 $\mu$ F – 2.2 $\mu$ F |                         |                 |               |
| 37.5 – 42.5 x 37 x 28 |                       | 1.5 $\mu$ F             | 1.2 $\mu$ F             |                 |               |
| 52.5 – 57.5 x 45 x 30 | 3 $\mu$ F – 4 $\mu$ F | 3 $\mu$ F               | 2 $\mu$ F – 2.5 $\mu$ F | 1 $\mu$ F       | 470 nF        |
| 52.5 – 57.5 x 50 x 35 | 5 $\mu$ F             | 4 $\mu$ F – 4.7 $\mu$ F | 3 $\mu$ F – 3.5 $\mu$ F | 1.5 $\mu$ F     | 820 nF        |

## Radial Box (cont.)

**C4AT, 2 or 4 Leads, 250 – 850 VDC/160 – 450 VAC**

Capacitance Range: 0.22 to 60  $\mu\text{F}$  • Temperature Range: -40°C to +85°C

[www.kemet.com/C4AT](http://www.kemet.com/C4AT)



| C4                  | AT                                     | D                                                              | B                                        | U                        | 4100                                                                                                                        | A3                   | 0                   | J                 |
|---------------------|----------------------------------------|----------------------------------------------------------------|------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------|-------------------|
| Series              | Type                                   | Rated Voltage (VDC)                                            | Case                                     | Number of Leads          | Capacitance Code (pF)                                                                                                       | Lead Diameter (mm)   | Size Code           | Tolerance         |
| C4 = MKP Capacitors | AT = Radial box, switching application | D = 250<br>F = 400<br>G = 450<br>H = 600<br>J = 700<br>M = 850 | B = Plastic box with epoxy resin sealing | U = 2 lead<br>W = 4 lead | Digits 2-4 indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added. | A1 = 0.8<br>A3 = 1.2 | See Dimension Table | J = 5%<br>K = 10% |

| Case Size             | Voltage (VDC/VAC)                   |                                     |                   |                                     |                                       |                   |
|-----------------------|-------------------------------------|-------------------------------------|-------------------|-------------------------------------|---------------------------------------|-------------------|
|                       | 250/160                             | 400/250                             | 450/275           | 600/350                             | 700/400                               | 850/450           |
| 27.5 – 32 x 20 x 10   | 1 $\mu\text{F}$ – 2.2 $\mu\text{F}$ | 1 $\mu\text{F}$ – 1.5 $\mu\text{F}$ | 1 $\mu\text{F}$   | 680 nF                              | 470 nF                                | 220 nF            |
| 27.5 – 32 x 22 x 13   | 3.3 $\mu\text{F}$                   | 2 $\mu\text{F}$                     |                   | 1 $\mu\text{F}$                     |                                       | 470 nF            |
| 27.5 – 32 x 28 x 14   | 5 $\mu\text{F}$                     | 3.3 $\mu\text{F}$                   |                   |                                     |                                       |                   |
| 27.5 – 32 x 33 x 18   | 10 $\mu\text{F}$                    | 4 $\mu\text{F}$ – 5 $\mu\text{F}$   | 3.3 $\mu\text{F}$ | 2 $\mu\text{F}$ – 2.2 $\mu\text{F}$ | 1.5 $\mu\text{F}$ – 2.2 $\mu\text{F}$ | 1 $\mu\text{F}$   |
| 27.5 – 32 x 37 x 22   |                                     | 6.8 $\mu\text{F}$                   | 6.8 $\mu\text{F}$ | 3.3 $\mu\text{F}$                   | 3 $\mu\text{F}$                       | 1.5 $\mu\text{F}$ |
| 27.5 – 32 x 24.5 x 15 |                                     |                                     |                   |                                     | 1 $\mu\text{F}$                       |                   |
| 37.5 – 41.5 x 40 x 20 |                                     | 10 $\mu\text{F}$                    | 10 $\mu\text{F}$  | 4.7 $\mu\text{F}$ – 5 $\mu\text{F}$ |                                       |                   |
| 37.5 – 42 x 45 x 30   |                                     | 20 $\mu\text{F}$                    | 15 $\mu\text{F}$  | 9 $\mu\text{F}$ – 10 $\mu\text{F}$  |                                       | 4.7 $\mu\text{F}$ |
| 37.5 – 42 x 37 x 28   |                                     |                                     |                   | 6.8 $\mu\text{F}$                   |                                       |                   |
| 37.5 – 42.5 x 37 x 28 | 20 $\mu\text{F}$                    | 15 $\mu\text{F}$                    |                   |                                     | 5 $\mu\text{F}$                       | 3.3 $\mu\text{F}$ |
| 37.5 – 42.5 x 45 x 30 | 30 $\mu\text{F}$                    |                                     |                   |                                     |                                       |                   |
| 52.5 – 57.5 x 45 x 30 | 40 $\mu\text{F}$                    | 25 $\mu\text{F}$ – 30 $\mu\text{F}$ | 20 $\mu\text{F}$  | 12 $\mu\text{F}$                    | 9 $\mu\text{F}$ – 10 $\mu\text{F}$    | 6.8 $\mu\text{F}$ |
| 52.5 – 57.5 x 50 x 35 | 50 $\mu\text{F}$ – 60 $\mu\text{F}$ | 35 $\mu\text{F}$ – 40 $\mu\text{F}$ | 33 $\mu\text{F}$  | 20 $\mu\text{F}$                    | 15 $\mu\text{F}$                      | 10 $\mu\text{F}$  |

# Film Capacitors – Power AC

Polypropylene – Through-Hole

## Radial Box (cont.)

### C4BS IGBT Box, 850 – 3,000 VDC/550 – 750 VAC

Capacitance Range: 0.047 to 5  $\mu$ F • Temperature Range: -40°C to +85°C

[www.kemet.com/C4BS](http://www.kemet.com/C4BS)



| C4                                         | BS                                                   | M                                                           | B                                        | X               | 3470                                                                                                                               | Z             | E                                                                       | E                   | J                 |
|--------------------------------------------|------------------------------------------------------|-------------------------------------------------------------|------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------|---------------------|-------------------|
| Series                                     | Type                                                 | Rated Voltage (VDC)                                         | Case                                     | Number of Leads | Capacitance Code (pF)                                                                                                              | Internal Code | Termination Style                                                       | Size Code           | Tolerance         |
| C4 = MKP Capacitors for Power Applications | BS = Radial box with tab terminals, IGBT application | M = 850<br>N = 1,000<br>P = 1,200<br>W = 2,000<br>Y = 3,000 | B = Plastic box with epoxy resin sealing | X = Standard    | Digits two – four indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added. | Z = Standard  | A = Style A<br>B = Style B<br>E = Style E<br>F = Style F<br>G = Style G | See Dimension Table | J = 5%<br>K = 10% |

| Case Size      | Voltage (VDC/VAC)         |                           |                         |                         |                 |
|----------------|---------------------------|---------------------------|-------------------------|-------------------------|-----------------|
|                | 850/550                   | 1,000/600                 | 1,200/630               | 2,000/700               | 3,000/750       |
| 32 x 33 x 18   | 470 nF                    | 470 nF                    | 330 nF                  | 100 nF – 150 nF         | 47 nF – 68 nF   |
| 41.5 x 40 x 20 | 470 nF – 1 $\mu$ F        | 470 nF – 1 $\mu$ F        | 330 nF – 680 nF         | 100 nF – 470 nF         | 47 nF – 220 nF  |
| 41.5 x 44 x 24 |                           |                           |                         | 680 nF                  |                 |
| 42 x 45 x 30   | 2 $\mu$ F – 2.2 $\mu$ F   | 2 $\mu$ F                 | 1.5 $\mu$ F             | 820 nF                  | 330 nF          |
| 42.5 x 37 x 28 | 1.5 $\mu$ F               | 1.5 $\mu$ F               | 1 $\mu$ F – 1.2 $\mu$ F |                         |                 |
| 57.5 x 45 x 30 | 2.5 $\mu$ F – 3.3 $\mu$ F | 2.2 $\mu$ F – 3.3 $\mu$ F | 2 $\mu$ F – 2.5 $\mu$ F | 1 $\mu$ F – 1.2 $\mu$ F | 470 nF          |
| 57.5 x 50 x 35 | 4 $\mu$ F – 5 $\mu$ F     | 4 $\mu$ F                 | 3 $\mu$ F – 3.3 $\mu$ F | 1.5 $\mu$ F             | 680 nF – 820 nF |

## Plastic Canister

### C4DE Low Inductance, DC Link Applications, 400 – 1,000 VDC

Capacitance Range: 47 to 380  $\mu\text{F}$  • Temperature Range:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

[www.kemet.com/C4DE](http://www.kemet.com/C4DE)



| C4DE                            | F                                          | P                                             | Q                       | 6175                                                                                                                               | A8T            | K         |
|---------------------------------|--------------------------------------------|-----------------------------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------|
| Series                          | Rated Voltage (VDC)                        | Case & Fixing Bolt Code                       | Terminal Style          | Capacitance Code (pF)                                                                                                              | Internal Code  | Tolerance |
| C4DE = MKP, DC Link Application | F = 400<br>H = 600<br>I = 800<br>N = 1,000 | P = Cylindrical plastic case with fixing feet | Q = M8 threaded inserts | Digits two – four indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added. | A8T = Standard | K = 10%   |

| Case Size | Voltage           |                   |                   |                   |
|-----------|-------------------|-------------------|-------------------|-------------------|
|           | 400 VDC           | 600 VDC           | 800 VDC           | 1,000 VDC         |
| 84 x 40   | 175 $\mu\text{F}$ | 100 $\mu\text{F}$ | 68 $\mu\text{F}$  | 47 $\mu\text{F}$  |
| 84 x 51   | 260 $\mu\text{F}$ | 150 $\mu\text{F}$ | 100 $\mu\text{F}$ | 68 $\mu\text{F}$  |
| 84 x 64   | 380 $\mu\text{F}$ | 220 $\mu\text{F}$ | 140 $\mu\text{F}$ | 100 $\mu\text{F}$ |

### C4DC, GTO Snubbing Applications, 850 – 1,400 VDC/500 – 700 VAC

Capacitance Range: 0.5 to 6  $\mu\text{F}$  • Temperature Range:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

[www.kemet.com/C4DC](http://www.kemet.com/C4DC)



| C4DC                        | M                               | A                      | Q                       | 4150                                                                                                                          | AA0            | J                 |
|-----------------------------|---------------------------------|------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------|
| Series                      | Rated Voltage (VDC)             | Case                   | Terminal Style          | Capacitance Code (pF)                                                                                                         | Internal Code  | Tolerance         |
| C4DC = MKP, GTO Application | M = 850<br>N = 1000<br>R = 1400 | A = Axial plastic case | Q = M8 Threaded Inserts | Digits 2 – 4 indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added. | AA0 = Standard | J = 5%<br>K = 10% |

| Case Size | Voltage (VDC/VAC)                   |                                     |                                     |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|
|           | 850/500                             | 1,000/600                           | 1,400/700                           |
| 60 x 51   | 1.5 $\mu\text{F}$ – 2 $\mu\text{F}$ | 1 $\mu\text{F}$                     | 500 nF – 1 $\mu\text{F}$            |
| 60 x 64   |                                     |                                     | 1.5 $\mu\text{F}$                   |
| 72 x 51   | 3 $\mu\text{F}$ – 3.5 $\mu\text{F}$ | 2 $\mu\text{F}$                     |                                     |
| 72 x 64   |                                     |                                     | 2 $\mu\text{F}$ – 2.5 $\mu\text{F}$ |
| 80 x 51   | 4 $\mu\text{F}$ – 5 $\mu\text{F}$   | 2.5 $\mu\text{F}$ – 3 $\mu\text{F}$ |                                     |
| 80 x 64   |                                     |                                     | 3 $\mu\text{F}$                     |
| 90 x 51   | 6 $\mu\text{F}$                     | 3.5 $\mu\text{F}$ – 4 $\mu\text{F}$ | 1 $\mu\text{F}$                     |
| 90 x 64   |                                     |                                     | 4 $\mu\text{F}$ – 5 $\mu\text{F}$   |

# Film Capacitors – Power AC

## Plastic Canister (cont.)

### C4DR, GTO Clamping Applications, 400 – 3,000 VDC/160 – 1,000 VAC

Capacitance Range: 1 to 220  $\mu\text{F}$  • Temperature Range: -40°C to +85°C

[www.kemet.com/C4DR](http://www.kemet.com/C4DR)



| C4DR                             | F                                                                               | A                      | Q                       | 5250                                                                                                                          | AA0            | J                 |
|----------------------------------|---------------------------------------------------------------------------------|------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------|
| Series                           | Rated Voltage (VDC)                                                             | Case                   | Terminal Style          | Capacitance Code ( $\mu\text{F}$ )                                                                                            | Internal Code  | Tolerance         |
| C4DR = MKP, Clamping Application | F = 400<br>H = 600<br>J = 700<br>M = 850<br>P = 1,200<br>S = 1,500<br>Y = 3,000 | A = Axial plastic case | Q = M8 threaded inserts | Digits 2 – 4 indicate the first three digits of the capacitance value. First digit indicates the number of zeros to be added. | AA0 = Standard | J = 5%<br>K = 10% |

| Case Size | Voltage (VDC/VAC)                     |                                     |                   |                                     |                                     |                   |                                   |
|-----------|---------------------------------------|-------------------------------------|-------------------|-------------------------------------|-------------------------------------|-------------------|-----------------------------------|
|           | 400/160                               | 600/220                             | 700/250           | 850/330                             | 1,200/440                           | 1,500/500         | 3,000/1,000                       |
| 60 x 49   |                                       |                                     |                   |                                     |                                     |                   | 250 nF – 470 nF                   |
| 60 x 51   | 25 $\mu\text{F}$                      | 12 $\mu\text{F}$                    | 7.5 $\mu\text{F}$ | 4 $\mu\text{F}$ – 6 $\mu\text{F}$   | 2.5 $\mu\text{F}$                   | 1 $\mu\text{F}$   |                                   |
| 72 x 51   | 30 $\mu\text{F}$                      | 15 $\mu\text{F}$ – 20 $\mu\text{F}$ | 10 $\mu\text{F}$  | 7.5 $\mu\text{F}$ – 8 $\mu\text{F}$ | 3 $\mu\text{F}$ – 4 $\mu\text{F}$   | 2 $\mu\text{F}$   |                                   |
| 80 x 49   |                                       |                                     |                   |                                     |                                     |                   | 1 $\mu\text{F}$                   |
| 80 x 51   | 50 $\mu\text{F}$                      | 25 $\mu\text{F}$                    | 15 $\mu\text{F}$  |                                     | 5 $\mu\text{F}$                     | 3 $\mu\text{F}$   |                                   |
| 80 x 61   |                                       |                                     | 25 $\mu\text{F}$  | 10 $\mu\text{F}$ – 20 $\mu\text{F}$ | 8 $\mu\text{F}$                     | 5 $\mu\text{F}$   |                                   |
| 80 x 99   |                                       |                                     |                   |                                     | 20 $\mu\text{F}$                    |                   |                                   |
| 90 x 49   |                                       |                                     |                   |                                     |                                     |                   | 1.25 $\mu\text{F}$                |
| 90 x 51   | 75 $\mu\text{F}$                      | 33 $\mu\text{F}$                    | 20 $\mu\text{F}$  |                                     | 6 $\mu\text{F}$                     | 4 $\mu\text{F}$   |                                   |
| 90 x 59   |                                       |                                     |                   |                                     |                                     |                   | 2.5 $\mu\text{F}$                 |
| 90 x 61   | 100 $\mu\text{F}$ – 110 $\mu\text{F}$ | 50 $\mu\text{F}$                    | 33 $\mu\text{F}$  | 25 $\mu\text{F}$                    | 10 $\mu\text{F}$ – 12 $\mu\text{F}$ | 7.5 $\mu\text{F}$ |                                   |
| 90 x 99   | 220 $\mu\text{F}$                     | 100 $\mu\text{F}$                   | 70 $\mu\text{F}$  | 60 $\mu\text{F}$                    | 25 $\mu\text{F}$                    | 15 $\mu\text{F}$  | 4 $\mu\text{F}$ – 5 $\mu\text{F}$ |

## Aluminum Canister

### C44U Screw Terminal, DC Link Applications, 700 – 1,300 VDC

Capacitance Range: 50 to 600  $\mu$ F • Temperature Range: -40°C to +85°C

[www.kemet.com/C44U](http://www.kemet.com/C44U)



| C4                                         | 4                     | U           | Q                                                                 | G                                                                                         | T                                                                           | 6                                                                                                                                        | 5 | 0 | 0 | F                                                                              | 8                      | S                                       | K                 |
|--------------------------------------------|-----------------------|-------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|--------------------------------------------------------------------------------|------------------------|-----------------------------------------|-------------------|
| Series                                     |                       |             | DC Voltage                                                        | Case and Fixing                                                                           | Terminals Code                                                              | Capacitance Code (pF)                                                                                                                    |   |   |   | Variants                                                                       | Case Diameter          | Film Type                               | Tolerance         |
| C4 = MKP Capacitors for Power Applications | 4 = Cylindrical types | U = DC link | H = 600 V<br>J = 700 V<br>O = 900 V<br>Q = 1,100 V<br>U = 1,300 V | G = Cylindrical case with threaded bolt M12<br>E = Cylindrical case without threaded bolt | T = M6 female terminals<br>Q = M8 male terminals<br>Y = M8 female terminals | Digits nine, ten and eleven indicate the first three digits of capacitance value. Digit eight indicates the number of zeros to be added. |   |   |   | A = 85°C Hot Spot temperature series<br>F/G = 70°C Hot Spot temperature series | 7 = 76 mm<br>8 = 85 mm | T = Standard film<br>S = Segmented film | J = 5%<br>K = 10% |

| Case Size  | Voltage     |             |                           |                           |                          |
|------------|-------------|-------------|---------------------------|---------------------------|--------------------------|
|            | 600 VDC     | 700 VDC     | 900 VDC                   | 1,100 VDC                 | 1,300 VDC                |
| 76 x 55    |             | 120 $\mu$ F | 75 $\mu$ F                | 50 $\mu$ F                |                          |
| 76 x 70    |             | 175 $\mu$ F | 110 $\mu$ F               | 75 $\mu$ F                |                          |
| 76 x 95    |             |             | 200 $\mu$ F – 270 $\mu$ F | 130 $\mu$ F – 175 $\mu$ F | 90 $\mu$ F – 120 $\mu$ F |
| 76 x 120   |             | 350 $\mu$ F | 220 $\mu$ F               | 150 $\mu$ F               |                          |
| 76 x 140   |             | 425 $\mu$ F | 275 $\mu$ F               | 190 $\mu$ F – 280 $\mu$ F | 195 $\mu$ F              |
| 85 x 55    |             | 160 $\mu$ F | 100 $\mu$ F               | 70 $\mu$ F                |                          |
| 85 x 70    |             | 225 $\mu$ F | 150 $\mu$ F               | 100 $\mu$ F               |                          |
| 85 x 95    |             |             | 370 $\mu$ F               | 240 $\mu$ F               | 165 $\mu$ F              |
| 85 x 120   |             | 450 $\mu$ F | 300 $\mu$ F – 510 $\mu$ F | 200 $\mu$ F               |                          |
| 85 x 124.5 | 600 $\mu$ F |             |                           |                           |                          |
| 85 x 140   |             | 550 $\mu$ F | 350 $\mu$ F – 600 $\mu$ F | 250 $\mu$ F – 330 $\mu$ F | 250 $\mu$ F              |
| 85 x 155   |             |             |                           | 420 $\mu$ F               |                          |
| 85 x 174   |             |             |                           | 500 $\mu$ F               | 320 $\mu$ F              |
| 85 x 264   |             |             |                           |                           | 550 $\mu$ F              |

## Aluminum Canister (cont.)

**C44P/C20A for PFC and AC Filter, 250 – 1,000 VAC/400 – 1,400 VDC**

**Capacitance Range:** 68 to 600  $\mu$ F • **Temperature Range:** -40°C to +85°C

[www.kemet.com/C44P](http://www.kemet.com/C44P)



| C                                     | 44 | P                               | L                               |                                                        | G            | R              | 6                                                                                                                                                               | 1 | 0 | 0 | A                           | A              | S | J                 |
|---------------------------------------|----|---------------------------------|---------------------------------|--------------------------------------------------------|--------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|-----------------------------|----------------|---|-------------------|
| Series                                |    | Application                     | Rated Voltage (VAC)             |                                                        | Case Type    | Terminal Style | Capacitance Code (pF)                                                                                                                                           |   |   |   | Internal Code               | Internal Codes |   | Tolerance         |
| MKP Capacitors for Power Applications |    | AC Filter<br>P = C44<br>A = C20 | For C44P:<br>L = 330<br>K = 440 | For C20A:<br>K = 550<br>L = 640<br>Q = 780<br>Z = 1000 | G = M12 bolt | R = Male M10   | Digits 9 – 11 indicate the first three digits of capacitance value. Digit 8 indicates the number of zeros that must be added to obtain rated capacitance in pF. |   |   |   | A = Standard<br>Z = Special |                |   | J = 5%<br>K = 10% |

| Case Size | Voltage (VDC/VAC)         |                           |
|-----------|---------------------------|---------------------------|
|           | 700/330                   | 1,000/440                 |
| 65 x 115  | 100 $\mu$ F               |                           |
| 65 x 145  | 200 $\mu$ F               |                           |
| 65 x 197  |                           | 120 $\mu$ F               |
| 65 x 247  | 300 $\mu$ F – 400 $\mu$ F | 133 $\mu$ F – 150 $\mu$ F |
| 75 x 147  |                           | 100 $\mu$ F               |
| 75 x 247  | 500 $\mu$ F               | 200 $\mu$ F               |
| 85 x 247  | 600 $\mu$ F               | 250 $\mu$ F – 300 $\mu$ F |
| 85 x 270  | 600 $\mu$ F               |                           |
| 95 x 247  |                           | 400 $\mu$ F               |

## Aluminum Canister (cont.)

**C44H for PFC and AC Filter, 330 – 440 VAC/700 – 1,000 VDC**

**Capacitance Range:** 250 to 600  $\mu\text{F}$  • **Temperature Range:** -40°C to +85°C

[www.kemet.com/C44H](http://www.kemet.com/C44H)



| C44H                                   | L                                                    | G                                           | P                                               | 6100                                                                                                                       | A                           | A             | S             | J                 |
|----------------------------------------|------------------------------------------------------|---------------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------|---------------|-------------------|
| Series                                 | Rated Voltage                                        | Case & Fixing Bolt Code                     | Terminal Style                                  | Capacitance Code (pF)                                                                                                      | Internal Code               | Internal Code | Internal Code | Tolerance         |
| C44H = MKP Capacitors for AC filtering | L = 330 V <sub>rms</sub><br>K = 440 V <sub>rms</sub> | G = Cylindrical aluminum case with M12 bolt | P = M6 Threaded Posts<br>R = M10 Threaded Posts | Digits 9 – 11 indicate the first three digits of the capacitance value. Digit 8 indicates the number of zeros to be added. | A = Standard<br>Z = Special |               |               | J = 5%<br>K = 10% |

| Case Size | Voltage (VDC/VAC)                     |                                       |
|-----------|---------------------------------------|---------------------------------------|
|           | 700/330                               | 1,000/440                             |
| 65 x 98   | 100 $\mu\text{F}$                     |                                       |
| 75 x 117  | 200 $\mu\text{F}$                     |                                       |
| 75 x 142  |                                       | 100 $\mu\text{F}$                     |
| 75 x 194  | 300 $\mu\text{F}$                     | 133 $\mu\text{F}$ – 150 $\mu\text{F}$ |
| 75 x 242  | 400 $\mu\text{F}$ – 500 $\mu\text{F}$ | 200 $\mu\text{F}$                     |
| 85 x 142  |                                       | 133 $\mu\text{F}$                     |
| 85 x 242  | 600 $\mu\text{F}$                     | 250 $\mu\text{F}$                     |









## CORPORATE HEADQUARTERS

KEMET Corporation  
2835 KEMET Way  
Simpsonville, SC 29681  
USA  
864.963.6300  
[www.kemet.com](http://www.kemet.com)

Countries and Areas listed below represent KEMET operations throughout the world.

|           |           |             |                |
|-----------|-----------|-------------|----------------|
| Bulgaria  | India     | Malaysia    | Sweden         |
| China     | Indonesia | Mexico      | Taiwan         |
| Finland   | Italy     | Portugal    | United Kingdom |
| Germany   | Japan     | Singapore   | USA            |
| Hong Kong | Macedonia | South Korea |                |