

## Overview

The solid tantalum capacitor is an essential device in circuits requiring high capacitance voltage product and extended environmental capability. The KEMET GR500 Graded Reliability concept produces state-of-the-art devices, providing maximum assurance of meeting system reliability goals. All Graded Reliability capacitors receive meticulous attention from raw material selection through manufacture, final inspection and shipping. Having survived a very stringent quality control program, the resulting capacitors meet or exceed the most critical requirements of space, satellite, missile and medical applications where failure is, at best, expensive, and at worst,

fatal. KEMET is, therefore, committed to the principle of the highest possible reliability in the manufacture and grading of its GR500 Series capacitors. The KEMET GR500 High Reliability concept disallows grouping of diverse ratings and production batches to determine average failure rates. Instead, data from each and every capacitor batch are statistically fitted to determine failure rate on the basis of 100% life testing. Each homogeneous production batch is “graded” as a single inspection lot, and documented evidence of failure rate achieved is supplied with the parts, providing assurance of the most sophisticated and accurate reliability measurement of method in the industry.

## Benefits

- 100% Thermal Shock (-65°C to +125°C) prior to electrical testing
- 100% Surge Current testing.
- 100% Weibull Grading
- 100% X-ray examined
- Hermeticity testing per MIL-STD-202
- Optional Special testing
- Packaged in individual container compartments
- Marking per MIL-STD-1285
- Capacitance values of 0.0047  $\mu$ F to 330  $\mu$ F
- Tolerances of  $\pm 5\%$ ,  $\pm 10\%$  and  $\pm 20\%$
- Voltage rating of 6– 100 VDC
- Case sizes: A,B,C,D

## Applications

Typical applications include coupling, bypass, filtering, and RC timing circuits in miniaturized circuitry.



## Ordering Information

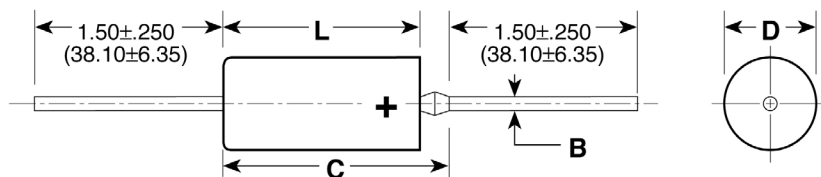
| T               | 210                                                                                                 | A          | 105                                                                                              | K                                                 | 050                                                                                                                 | R                                                                             | S                                   |
|-----------------|-----------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------|
| Capacitor Class | Series                                                                                              | Case Size  | Capacitance Code (pF)                                                                            | Capacitance Tolerance                             | Voltage                                                                                                             | Failure Rate                                                                  | Lead Material                       |
| T = Tantalum    | 210 = GR500/J (KEMET) High Reliability, Solid Electrolyte, Graded, Hermetic Seal, Axial Lead, Polar | A, B, C, D | First two digits represent significant figures. Third digit specifies number of zeros to follow. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | 006 = 6.3V<br>010 = 10V<br>015 = 15V<br>020 = 20V<br>025 = 25V<br>035 = 35V<br>050 = 50V<br>075 = 75V<br>100 = 100V | M = 1%/k hours<br>P = 0.1%/k hours<br>R = 0.01%/k hours<br>S = 0.001%/k hours | S = Standard (Solder-coated nickel) |

## Performance Characteristics

| Item                               | Performance Characteristics                                                                                                 |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature              | -55°C to 125°C                                                                                                              |
| Rated Capacitance Range            | 0.0047 – 330 $\mu\text{F}$ @ 120 Hz/25°C                                                                                    |
| Capacitance Tolerance              | J Tolerance (5%), K Tolerance (10%), M Tolerance (20%)                                                                      |
| Rated Voltage Range                | 6 – 100 V                                                                                                                   |
| DF (120 Hz @ 25°C)                 | Refer to Part Number Electrical Specification Table                                                                         |
| ESR and Impedance (100 kHz @ 25°C) | Refer to Part Number Electrical Specification Table                                                                         |
| Leakage Current                    | Refer to Part Number Electrical Specification Table (@ rated voltage up to +85°C and 2/3 of rated voltage applied at 125°C) |
| Failure Rate                       | M - 1%/k hours, P - 0.1%/k hours, R - 0.01%/k hours, S - 0.001%/k hours                                                     |

## Dimensions – Millimeters (Inches)

Metric will govern



| Case Size | Uninsulated        |                    | Insulated          |                    |                    |               |
|-----------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|
|           | D ±0.005<br>±(.13) | L ±0.031<br>±(.79) | D ±0.010<br>±(.25) | L ±0.031<br>±(.79) | B ±0.002<br>±(.05) | C<br>Maximum  |
| A         | 0.125 (3.18)       | 0.250 (6.35)       | 0.135 (3.43)       | 0.286 (7.26)       | 0.020 (0.51)       | 0.422 (10.72) |
| B         | 0.175 (4.45)       | 0.438 (11.13)      | 0.185 (4.70)       | 0.474 (12.04)      | 0.020 (0.51)       | 0.610 (15.49) |
| C         | 0.279 (7.09)       | 0.650 (16.51)      | 0.289 (7.34)       | 0.686 (17.42)      | 0.025 (0.64)       | 0.822 (20.88) |
| D         | 0.341 (8.66)       | 0.750 (19.05)      | 0.351 (8.92)       | 0.786 (19.96)      | 0.025 (0.64)       | 0.922 (23.42) |

Table 1 – Ratings &amp; Part Number Reference

| Rated Voltage | Rated Capacitance | Case Size Code | KEMET Part Number  | Graded Failure Rate | Maximum Leakage Current at Rated Voltage |            |             | Maximum DF (%) at 120 Hz |            | ESR Maximum Ohms 100 kHz +25°C |
|---------------|-------------------|----------------|--------------------|---------------------|------------------------------------------|------------|-------------|--------------------------|------------|--------------------------------|
|               |                   |                |                    |                     | +25°C (µA)                               | +85°C (µA) | +125°C (µA) | -55 +25°C                | +85 +125°C |                                |
| 6             | 3.9               | A              | T210A395(1)006(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 4.0                      | 4.0        | 1.00                           |
| 6             | 4.7               | A              | T210A475(1)006(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 4.0                      | 4.0        | 0.90                           |
| 6             | 5.6               | A              | T210A565(1)006(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 4.0                      | 4.0        | 0.90                           |
| 6             | 6.8               | A              | T210A685(1)006(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 4.0                      | 6.0        | 0.80                           |
| 6             | 27.0              | B              | T210B276(1)006(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.25                           |
| 6             | 33.0              | B              | T210B336(1)006(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.24                           |
| 6             | 39.0              | B              | T210B396(1)006(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.24                           |
| 6             | 47.0              | B              | T210B476(1)006(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.24                           |
| 6             | 56.0              | B              | T210B566(1)006(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.24                           |
| 6             | 82.0              | C              | T210C826(1)006(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 5.0                      | 8.0        | 0.12                           |
| 6             | 100               | C              | T210C107(1)006(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 5.0                      | 8.0        | 0.11                           |
| 6             | 120               | C              | T210C127(1)006(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 5.0                      | 8.0        | 0.10                           |
| 6             | 150               | C              | T210C157(1)006(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 5.0                      | 8.0        | 0.09                           |
| 6             | 180               | C              | T210C187(1)006(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 5.0                      | 8.0        | 0.08                           |
| 6             | 220               | D              | T210D227(1)006(2)S | R,S                 | 2.0                                      | 20.0       | 25.00       | 6.0                      | 8.0        | 0.07                           |
| 6             | 270               | D              | T210D277(1)006(2)S | R,S                 | 2.0                                      | 20.0       | 25.00       | 6.0                      | 8.0        | 0.07                           |
| 6             | 330               | D              | T210D337(1)006(2)S | R,S                 | 3.0                                      | 30.0       | 39.50       | 6.0                      | 8.0        | 0.06                           |
| 10            | 2.7               | A              | T210A275(1)010(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 4.0                      | 4.0        | 1.20                           |
| 10            | 3.3               | A              | T210A335(1)010(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 4.0                      | 4.0        | 1.00                           |
| 10            | 3.9               | A              | T210A395(1)010(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 4.0                      | 4.0        | 1.00                           |
| 10            | 4.7               | A              | T210A475(1)010(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 4.0                      | 4.0        | 0.90                           |
| 10            | 12.0              | B              | T210B126(1)010(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.32                           |
| 10            | 15.0              | B              | T210B156(1)010(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.29                           |
| 10            | 18.0              | B              | T210B186(1)010(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.27                           |
| 10            | 22.0              | B              | T210B226(1)010(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.26                           |
| 10            | 27.0              | B              | T210B276(1)010(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.25                           |
| 10            | 33.0              | B              | T210B336(1)010(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.24                           |
| 10            | 39.0              | B              | T210B396(1)010(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.24                           |
| 10            | 47.0              | C              | T210C476(1)010(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 5.0                      | 6.0        | 0.16                           |
| 10            | 56.0              | C              | T210C566(1)010(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 5.0                      | 6.0        | 0.15                           |
| 10            | 68.0              | C              | T210C686(1)010(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 5.0                      | 6.0        | 0.13                           |
| 10            | 82.0              | C              | T210C826(1)010(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 5.0                      | 6.0        | 0.12                           |
| 10            | 100.0             | C              | T210C107(1)010(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 5.0                      | 8.0        | 0.11                           |
| 10            | 120.0             | C              | T210C127(1)010(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 5.0                      | 8.0        | 0.10                           |
| 10            | 150.0             | D              | T210D157(1)010(2)S | R,S                 | 2.0                                      | 20.0       | 25.00       | 5.0                      | 8.0        | 0.09                           |
| 10            | 180.0             | D              | T210D187(1)010(2)S | R,S                 | 2.0                                      | 20.0       | 25.00       | 5.0                      | 8.0        | 0.08                           |
| 10            | 220.0             | D              | T210D227(1)010(2)S | R,S                 | 3.0                                      | 30.0       | 37.50       | 5.0                      | 8.0        | 0.07                           |
| 15            | 1.2               | A              | T210A125(1)015(2)S | R,S                 | 0.25                                     | 2.5        | 3.13        | 3.0                      | 4.0        | 1.40                           |
| 15            | 1.5               | A              | T210A155(1)015(2)S | R,S                 | 0.25                                     | 2.5        | 3.13        | 3.0                      | 4.0        | 1.30                           |
| 15            | 1.8               | A              | T210A185(1)015(2)S | R,S                 | 0.25                                     | 2.5        | 3.13        | 3.0                      | 4.0        | 1.25                           |
| 15            | 2.2               | A              | T210A225(1)015(2)S | R,S                 | 0.25                                     | 2.5        | 3.13        | 3.0                      | 4.0        | 1.20                           |
| 15            | 2.7               | A              | T210A275(1)015(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 3.0                      | 4.0        | 1.20                           |
| 15            | 3.3               | A              | T210A335(1)015(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 3.0                      | 4.0        | 1.00                           |
| 15            | 5.6               | B              | T210B565(1)015(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.47                           |
| 15            | 6.8               | B              | T210B685(1)015(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.43                           |
| 15            | 8.2               | B              | T210B825(1)015(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.39                           |
| 15            | 10.0              | B              | T210B106(1)015(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.35                           |
| 15            | 12.0              | B              | T210B126(1)015(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.32                           |
| 15            | 15.0              | B              | T210B156(1)015(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.29                           |
| 15            | 18.0              | B              | T210B186(1)015(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.27                           |
| 15            | 22.0              | B              | T210B226(1)015(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.26                           |
| 15            | 27.0              | C              | T210C276(1)015(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 4.0                      | 6.0        | 0.21                           |
| 15            | 33.0              | C              | T210C336(1)015(2)S | R,S                 | 1.5                                      | 15.0       | 18.75       | 4.0                      | 6.0        | 0.19                           |
| 15            | 39.0              | C              | T210C396(1)015(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 4.0                      | 6.0        | 0.17                           |
| 15            | 47.0              | C              | T210C476(1)015(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 4.0                      | 6.0        | 0.16                           |
| 15            | 56.0              | C              | T210C566(1)015(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 4.0                      | 6.0        | 0.15                           |
| 15            | 68.0              | C              | T210C686(1)015(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 4.0                      | 6.0        | 0.13                           |
| V             | µF                |                |                    |                     | +25°C (µA)                               | +85°C (µA) | +125°C (µA) | -55 +25°C                | +85 +125°C |                                |
| Rated Voltage | Rated Capacitance | Case Size Code | KEMET Part Number  | Graded Failure Rate | Maximum Leakage Current at Rated Voltage |            |             | Maximum DF (%) at 120 Hz |            | ESR Maximum Ohms 100 kHz +25°C |

Table 1 – Ratings &amp; Part Number Reference cont'd

| Rated Voltage | Rated Capacitance | Case Size Code | KEMET Part Number  | Graded Failure Rate | Maximum Leakage Current at Rated Voltage |            |             | Maximum DF (%) at 120 Hz |            | ESR Maximum Ohms 100 kHz +25°C |
|---------------|-------------------|----------------|--------------------|---------------------|------------------------------------------|------------|-------------|--------------------------|------------|--------------------------------|
|               |                   |                |                    |                     | +25°C (µA)                               | +85°C (µA) | +125°C (µA) | -55 +25°C                | +85 +125°C |                                |
| 15            | 82.0              | D              | T210D826(1)015(2)S | P,R                 | 2.0                                      | 20.0       | 25.00       | 5.0                      | 8.0        | 0.11                           |
| 15            | 100.0             | D              | T210D107(1)015(2)S | P,R                 | 2.0                                      | 20.0       | 25.00       | 5.0                      | 8.0        | 0.10                           |
| 15            | 120.0             | D              | T210D127(1)015(2)S | P,R                 | 2.0                                      | 20.0       | 25.00       | 5.0                      | 8.0        | 0.09                           |
| 15            | 150.0             | D              | T210D157(1)015(2)S | P,R                 | 3.0                                      | 30.0       | 37.50       | 5.0                      | 8.0        | 0.09                           |
| 20            | 1.2               | A              | T210A125(1)020(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 3.0                      | 4.0        | 1.40                           |
| 20            | 1.5               | A              | T210A155(1)020(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 3.0                      | 4.0        | 1.30                           |
| 20            | 1.8               | A              | T210A185(1)020(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 3.0                      | 4.0        | 1.25                           |
| 20            | 2.2               | A              | T210A225(1)020(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 3.0                      | 4.0        | 1.20                           |
| 20            | 4.7               | B              | T210B475(1)020(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.51                           |
| 20            | 5.6               | B              | T210B565(1)020(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.47                           |
| 20            | 6.8               | B              | T210B685(1)020(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.43                           |
| 20            | 8.2               | B              | T210B825(1)020(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.39                           |
| 20            | 10.0              | B              | T210B106(1)020(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.35                           |
| 20            | 12.0              | B              | T210B126(1)020(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.32                           |
| 20            | 15.0              | B              | T210B156(1)020(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 4.0                      | 6.0        | 0.29                           |
| 20            | 18.0              | C              | T210C186(1)020(2)S | R,S                 | 1.0                                      | 10.0       | 12.50       | 4.0                      | 6.0        | 0.25                           |
| 20            | 22.0              | C              | T210C226(1)020(2)S | R,S                 | 1.0                                      | 10.0       | 12.50       | 4.0                      | 6.0        | 0.25                           |
| 20            | 27.0              | C              | T210C276(1)020(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 4.0                      | 6.0        | 0.21                           |
| 20            | 33.0              | C              | T210C336(1)020(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 4.0                      | 6.0        | 0.19                           |
| 20            | 39.0              | C              | T210C396(1)020(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 4.0                      | 6.0        | 0.17                           |
| 20            | 47.0              | C              | T210C476(1)020(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 4.0                      | 6.0        | 0.16                           |
| 20            | 56.0              | D              | T210D566(1)020(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 4.0                      | 6.0        | 0.13                           |
| 20            | 68.0              | D              | T210D686(1)020(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 4.0                      | 6.0        | 0.12                           |
| 20            | 82.0              | D              | T210D826(1)020(2)S | M,P                 | 3.0                                      | 30.0       | 37.50       | 4.0                      | 6.0        | 0.11                           |
| 20            | 100               | D              | T210D107(1)020(2)S | M,P                 | 3.0                                      | 30.0       | 37.50       | 4.0                      | 6.0        | 0.10                           |
| 35            | 0.82              | A              | T210A824(1)035(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 1.60                           |
| 35            | 1.00              | A              | T210A105(1)035(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 1.40                           |
| 35            | 2.70              | B              | T210B275(1)035(2)S | R,S                 | 0.25                                     | 2.5        | 3.13        | 3.0                      | 4.0        | 0.68                           |
| 35            | 3.30              | B              | T210B335(1)035(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 3.0                      | 4.0        | 0.62                           |
| 35            | 3.90              | B              | T210B395(1)035(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 3.0                      | 4.0        | 0.56                           |
| 35            | 4.70              | B              | T210B475(1)035(2)S | R,S                 | 0.5                                      | 5.0        | 6.25        | 3.0                      | 4.0        | 0.51                           |
| 35            | 5.60              | B              | T210B565(1)035(2)S | M,P                 | 0.5                                      | 5.0        | 6.25        | 3.0                      | 4.0        | 0.47                           |
| 35            | 6.80              | B              | T210B685(1)035(2)S | M,P                 | 0.5                                      | 5.0        | 6.25        | 3.0                      | 4.0        | 0.43                           |
| 35            | 8.20              | C              | T210C825(1)035(2)S | R,S                 | 1.0                                      | 10.0       | 12.50       | 3.0                      | 5.0        | 0.36                           |
| 35            | 10.0              | C              | T210C106(1)035(2)S | R,S                 | 1.0                                      | 10.0       | 12.50       | 3.0                      | 5.0        | 0.33                           |
| 35            | 12.0              | C              | T210C126(1)035(2)S | P,R                 | 1.0                                      | 10.0       | 12.50       | 3.0                      | 5.0        | 0.30                           |
| 35            | 15.0              | C              | T210C156(1)035(2)S | P,R                 | 1.0                                      | 10.0       | 12.50       | 3.0                      | 5.0        | 0.27                           |
| 35            | 18.0              | C              | T210C186(1)035(2)S | P,R                 | 1.0                                      | 10.0       | 12.50       | 3.0                      | 5.0        | 0.25                           |
| 35            | 22.0              | C              | T210C226(1)035(2)S | M,P                 | 1.0                                      | 10.0       | 12.50       | 3.0                      | 5.0        | 0.25                           |
| 35            | 27.0              | D              | T210D276(1)035(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 3.0                      | 5.0        | 0.18                           |
| 35            | 33.0              | D              | T210D336(1)035(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 3.0                      | 5.0        | 0.17                           |
| 35            | 39.0              | D              | T210D396(1)035(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 4.0                      | 6.0        | 0.15                           |
| 35            | 47.0              | D              | T210D476(1)035(2)S | M,P                 | 3.0                                      | 30.0       | 37.50       | 4.0                      | 6.0        | 0.14                           |
| 50            | 0.0047            | A              | T210A472(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 30.00                          |
| 50            | 0.0056            | A              | T210A562(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 28.00                          |
| 50            | 0.0068            | A              | T210A682(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 26.00                          |
| 50            | 0.0082            | A              | T210A822(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 24.00                          |
| 50            | 0.01              | A              | T210A103(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 22.00                          |
| 50            | 0.012             | A              | T210A123(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 20.00                          |
| 50            | 0.015             | A              | T210A153(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 18.00                          |
| 50            | 0.018             | A              | T210A183(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 16.00                          |
| 50            | 0.022             | A              | T210A223(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 14.00                          |
| 50            | 0.027             | A              | T210A273(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 13.00                          |
| 50            | 0.033             | A              | T210A333(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 12.00                          |
| 50            | 0.039             | A              | T210A393(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 11.00                          |
| 50            | 0.047             | A              | T210A473(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 10.00                          |
| 50            | 0.056             | A              | T210A563(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 9.00                           |
| V             | µF                |                |                    |                     | +25°C (µA)                               | +85°C (µA) | +125°C (µA) | -55 +25°C                | +85 +125°C |                                |
| Rated Voltage | Rated Capacitance | Case Size Code | KEMET Part Number  | Graded Failure Rate | Maximum Leakage Current at Rated Voltage |            |             | Maximum DF (%) at 120 Hz |            | ESR Maximum Ohms 100 kHz +25°C |

Table 1 – Ratings &amp; Part Number Reference cont'd

| Rated Voltage | Rated Capacitance | Case Size Code | KEMET Part Number  | Graded Failure Rate | Maximum Leakage Current at Rated Voltage |            |             | Maximum DF (%) at 120 Hz |            | ESR Maximum Ohms 100 kHz +25°C |
|---------------|-------------------|----------------|--------------------|---------------------|------------------------------------------|------------|-------------|--------------------------|------------|--------------------------------|
|               |                   |                |                    |                     | +25°C (µA)                               | +85°C (µA) | +125°C (µA) | -55 +25°C                | +85 +125°C |                                |
| 50            | 0.068             | A              | T210A683(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 8.00                           |
| 50            | 0.082             | A              | T210A823(1)050(2)S | R,S                 | 0.05                                     | 0.5        | 0.63        | 2.0                      | 4.0        | 7.50                           |
| 50            | 0.1               | A              | T210A104(1)050(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 7.00                           |
| 50            | 0.12              | A              | T210A124(1)050(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 6.50                           |
| 50            | 0.15              | A              | T210A154(1)050(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 5.50                           |
| 50            | 0.18              | A              | T210A184(1)050(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 5.00                           |
| 50            | 0.22              | A              | T210A224(1)050(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 4.00                           |
| 50            | 0.27              | A              | T210A274(1)050(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 3.50                           |
| 50            | 0.33              | A              | T210A334(1)050(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 3.30                           |
| 50            | 0.39              | A              | T210A394(1)050(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 3.30                           |
| 50            | 0.47              | A              | T210A474(1)050(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 3.00                           |
| 50            | 0.56              | A              | T210A564(1)050(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 2.50                           |
| 50            | 0.68              | A              | T210A684(1)050(2)S | R,S                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 1.80                           |
| 50            | 0.82              | A              | T210A824(1)050(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 1.60                           |
| 50            | 1.00              | A              | T210A105(1)050(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 1.40                           |
| 50            | 1.20              | B              | T210B125(1)050(2)S | R,S                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 1.20                           |
| 50            | 1.50              | B              | T210B155(1)050(2)S | R,S                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 1.10                           |
| 50            | 1.80              | B              | T210B185(1)050(2)S | R,S                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 0.92                           |
| 50            | 2.20              | B              | T210B225(1)050(2)S | R,S                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 0.80                           |
| 50            | 2.70              | B              | T210B275(1)050(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 0.68                           |
| 50            | 3.30              | B              | T210B335(1)050(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 2.0                      | 4.0        | 0.62                           |
| 50            | 3.90              | B              | T210B395(1)050(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 2.0                      | 4.0        | 0.56                           |
| 50            | 4.70              | B              | T210B475(1)050(2)S | M,P                 | 0.5                                      | 5.0        | 6.25        | 2.0                      | 4.0        | 0.51                           |
| 50            | 5.60              | C              | T210C565(1)050(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 3.0                      | 4.0        | 0.44                           |
| 50            | 6.80              | C              | T210C685(1)050(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 3.0                      | 5.0        | 0.40                           |
| 50            | 8.20              | C              | T210C825(1)050(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 3.0                      | 5.0        | 0.36                           |
| 50            | 10.0              | C              | T210C106(1)050(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 3.0                      | 5.0        | 0.33                           |
| 50            | 12.0              | C              | T210C126(1)050(2)S | M,P                 | 1.5                                      | 15.0       | 18.75       | 3.0                      | 5.0        | 0.30                           |
| 50            | 15.0              | C              | T210C156(1)050(2)S | M,P                 | 1.5                                      | 15.0       | 18.75       | 3.0                      | 5.0        | 0.27                           |
| 50            | 18.0              | C              | T210C186(1)050(2)S | M,P                 | 1.5                                      | 15.0       | 18.75       | 3.0                      | 5.0        | 0.25                           |
| 50            | 22.0              | D              | T210D226(1)050(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 3.0                      | 5.0        | 0.20                           |
| 75            | 0.0047            | A              | T210A472(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 30.00                          |
| 75            | 0.0056            | A              | T210A562(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 28.00                          |
| 75            | 0.0068            | A              | T210A682(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 26.00                          |
| 75            | 0.0082            | A              | T210A822(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 24.00                          |
| 75            | 0.01              | A              | T210A103(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 22.00                          |
| 75            | 0.012             | A              | T210A123(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 20.00                          |
| 75            | 0.015             | A              | T210A153(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 18.00                          |
| 75            | 0.018             | A              | T210A183(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 16.00                          |
| 75            | 0.022             | A              | T210A223(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 14.00                          |
| 75            | 0.027             | A              | T210A273(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 13.00                          |
| 75            | 0.033             | A              | T210A333(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 12.00                          |
| 75            | 0.039             | A              | T210A393(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 11.00                          |
| 75            | 0.047             | A              | T210A473(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 10.00                          |
| 75            | 0.056             | A              | T210A563(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 9.00                           |
| 75            | 0.068             | A              | T210A683(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 8.00                           |
| 75            | 0.082             | A              | T210A823(1)075(2)S | P,R                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 7.50                           |
| 75            | 0.1               | A              | T210A104(1)075(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 7.00                           |
| 75            | 0.12              | A              | T210A124(1)075(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 6.50                           |
| 75            | 0.15              | A              | T210A154(1)075(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 4.40                           |
| 75            | 0.18              | A              | T210A184(1)075(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 4.00                           |
| 75            | 0.22              | A              | T210A224(1)075(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 3.50                           |
| 75            | 0.27              | A              | T210A274(1)075(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 3.10                           |
| 75            | 0.33              | A              | T310A334(1)075(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 2.80                           |
| 75            | 0.39              | A              | T310A394(1)075(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 2.60                           |
| 75            | 0.47              | A              | T210A474(1)075(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 2.40                           |
| V             | µF                |                |                    |                     | +25°C (µA)                               | +85°C (µA) | +125°C (µA) | -55 +25°C                | +85 +125°C |                                |
| Rated Voltage | Rated Capacitance | Case Size Code | KEMET Part Number  | Graded Failure Rate | Maximum Leakage Current at Rated Voltage |            |             | Maximum DF (%) at 120 Hz |            | ESR Maximum Ohms 100 kHz +25°C |

Table 1 – Ratings &amp; Part Number Reference cont'd

| Rated Voltage | Rated Capacitance | Case Size Code | KEMET Part Number  | Graded Failure Rate | Maximum Leakage Current at Rated Voltage |            |             | Maximum DF (%) at 120 Hz |            | ESR Maximum Ohms 100 kHz +25°C |
|---------------|-------------------|----------------|--------------------|---------------------|------------------------------------------|------------|-------------|--------------------------|------------|--------------------------------|
|               |                   |                |                    |                     | +25°C (μA)                               | +85°C (μA) | +125°C (μA) | -55 +25°C                | +85 +125°C |                                |
| 75            | 0.56              | A              | T210A564(1)075(2)S | P,R                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 2.25                           |
| 75            | 0.68              | A              | T210A684(1)075(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 2.10                           |
| 75            | 1.8               | B              | T210B185(1)075(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 2.0                      | 4.0        | 0.92                           |
| 75            | 2.2               | B              | T210B225(1)075(2)S | P,R                 | 0.5                                      | 5.0        | 6.25        | 2.0                      | 4.0        | 0.80                           |
| 75            | 2.7               | B              | T210B275(1)075(2)S | M,P                 | 0.5                                      | 5.0        | 6.25        | 2.0                      | 4.0        | 0.68                           |
| 75            | 3.3               | B              | T210B335(1)075(2)S | M,P                 | 0.75                                     | 7.5        | 9.40        | 2.0                      | 4.0        | 0.62                           |
| 75            | 3.9               | B              | T210B395(1)075(2)S | M,P                 | 0.75                                     | 7.5        | 9.40        | 2.0                      | 4.0        | 0.56                           |
| 75            | 4.7               | C              | T210C475(1)075(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 3.0                      | 4.0        | 0.47                           |
| 75            | 5.6               | C              | T210C565(1)075(2)S | P,R                 | 1.5                                      | 15.0       | 18.75       | 3.0                      | 4.0        | 0.44                           |
| 75            | 6.8               | C              | T210C685(1)075(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 3.0                      | 4.0        | 0.44                           |
| 75            | 8.2               | C              | T210C825(1)075(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 3.0                      | 5.0        | 0.36                           |
| 75            | 10.0              | C              | T210C106(1)075(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 3.0                      | 5.0        | 0.33                           |
| 75            | 12.0              | D              | T210D126(1)075(2)S | M,P                 | 2.5                                      | 25.0       | 31.25       | 3.0                      | 5.0        | 0.26                           |
| 75            | 15.0              | D              | T210D156(1)075(2)S | M,P                 | 2.5                                      | 25.0       | 31.25       | 3.0                      | 5.0        | 0.23                           |
| 100           | 0.0047            | A              | T210A472(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 30.00                          |
| 100           | 0.0056            | A              | T210A562(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 28.00                          |
| 100           | 0.0068            | A              | T210A682(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 26.00                          |
| 100           | 0.0082            | A              | T210A822(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 24.00                          |
| 100           | 0.01              | A              | T210A103(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 22.00                          |
| 100           | 0.012             | A              | T210A123(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 20.00                          |
| 100           | 0.015             | A              | T210A153(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 18.00                          |
| 100           | 0.018             | A              | T210A183(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 16.00                          |
| 100           | 0.022             | A              | T210A223(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 14.00                          |
| 100           | 0.027             | A              | T210A273(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 13.00                          |
| 100           | 0.033             | A              | T210A333(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 12.00                          |
| 100           | 0.039             | A              | T210A393(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 11.00                          |
| 100           | 0.047             | A              | T210A473(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 10.00                          |
| 100           | 0.056             | A              | T210A563(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 9.00                           |
| 100           | 0.068             | A              | T210A683(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 8.00                           |
| 100           | 0.082             | A              | T210A823(1)100(2)S | M,P                 | 0.1                                      | 1.0        | 1.25        | 2.0                      | 4.0        | 7.50                           |
| 100           | 0.1               | A              | T210A104(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 7.00                           |
| 100           | 0.12              | A              | T210A124(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 6.50                           |
| 100           | 0.15              | A              | T210A154(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 4.40                           |
| 100           | 0.18              | A              | T210A184(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 4.00                           |
| 100           | 0.22              | A              | T210A224(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 3.50                           |
| 100           | 0.27              | A              | T210A274(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 3.10                           |
| 100           | 0.33              | A              | T210A334(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 2.80                           |
| 100           | 0.39              | A              | T210A394(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 2.60                           |
| 100           | 0.47              | A              | T210A474(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 2.40                           |
| 100           | 0.56              | A              | T210A564(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 2.25                           |
| 100           | 0.68              | B              | T210B684(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 2.10                           |
| 100           | 0.82              | B              | T210B824(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 1.47                           |
| 100           | 1                 | B              | T210B105(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 1.40                           |
| 100           | 1.2               | B              | T210B125(1)100(2)S | M,P                 | 0.25                                     | 2.5        | 3.13        | 2.0                      | 4.0        | 1.33                           |
| 100           | 1.5               | B              | T210B155(1)100(2)S | M,P                 | 0.5                                      | 5.0        | 6.25        | 2.0                      | 4.0        | 1.06                           |
| 100           | 1.8               | B              | T210B185(1)100(2)S | M,P                 | 0.5                                      | 5.0        | 6.25        | 2.0                      | 4.0        | 0.92                           |
| 100           | 2.2               | B              | T210B225(1)100(2)S | M,P                 | 0.5                                      | 5.0        | 6.25        | 2.0                      | 4.0        | 0.80                           |
| 100           | 2.7               | B              | T210B275(1)100(2)S | M,P                 | 0.5                                      | 5.0        | 6.25        | 2.0                      | 4.0        | 0.68                           |
| 100           | 3.3               | C              | T210C335(1)100(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 3.0                      | 5.0        | 0.62                           |
| 100           | 3.9               | C              | T210C395(1)100(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 3.0                      | 5.0        | 0.56                           |
| 100           | 4.7               | C              | T210C475(1)100(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 3.0                      | 5.0        | 0.47                           |
| 100           | 5.6               | C              | T210C565(1)100(2)S | M,P                 | 2.0                                      | 20.0       | 25.00       | 3.0                      | 5.0        | 0.44                           |
| 100           | 6.8               | C              | T210C685(1)100(2)S | M                   | 2.0                                      | 20.0       | 25.00       | 3.0                      | 5.0        | 0.40                           |
| 100           | 8.2               | D              | T210D825(1)100(2)S | M                   | 2.5                                      | 25.0       | 31.25       | 3.0                      | 5.0        | 0.36                           |
| 100           | 10.0              | D              | T210D106(1)100(2)S | M                   | 2.5                                      | 25.0       | 31.25       | 3.0                      | 5.0        | 0.33                           |
| V             | μF                |                |                    |                     | +25°C (μA)                               | +85°C (μA) | +125°C (μA) | -55 +25°C                | +85 +125°C |                                |
| Rated Voltage | Rated Capacitance | Case Size Code | KEMET Part Number  | Graded Failure Rate | Maximum Leakage Current at Rated Voltage |            |             | Maximum DF (%) at 120 Hz |            | ESR Maximum Ohms 100 kHz +25°C |

## Ripple Current/Ripple Voltage

Permissible AC ripple voltage is related to the ESR of the capacitor and the power dissipation capabilities of a particular case size. Thermal capacities for the various case sizes have been determined empirically and are listed below.

| Temperature Compensation Multipliers<br>for Maximum Power Dissipation |          |           |
|-----------------------------------------------------------------------|----------|-----------|
| T ≤ 25°C                                                              | T ≤ 85°C | T ≤ 125°C |
| 1.00                                                                  | 0.90     | 0.40      |

T = Environmental Temperature

| Case Size | Maximum Power Dissipation (P max) | T2XX  |
|-----------|-----------------------------------|-------|
| A         | 0.09                              | 0.070 |
| B         | 0.100                             | 0.090 |
| C         | 0.125                             | –     |
| D         | 0.180                             | –     |

Maximum Power Dissipation: 25°C Ambient

Permissible AC ripple current can be determined by the following:

$$I(max) = Z \sqrt{P_{max}/R}$$

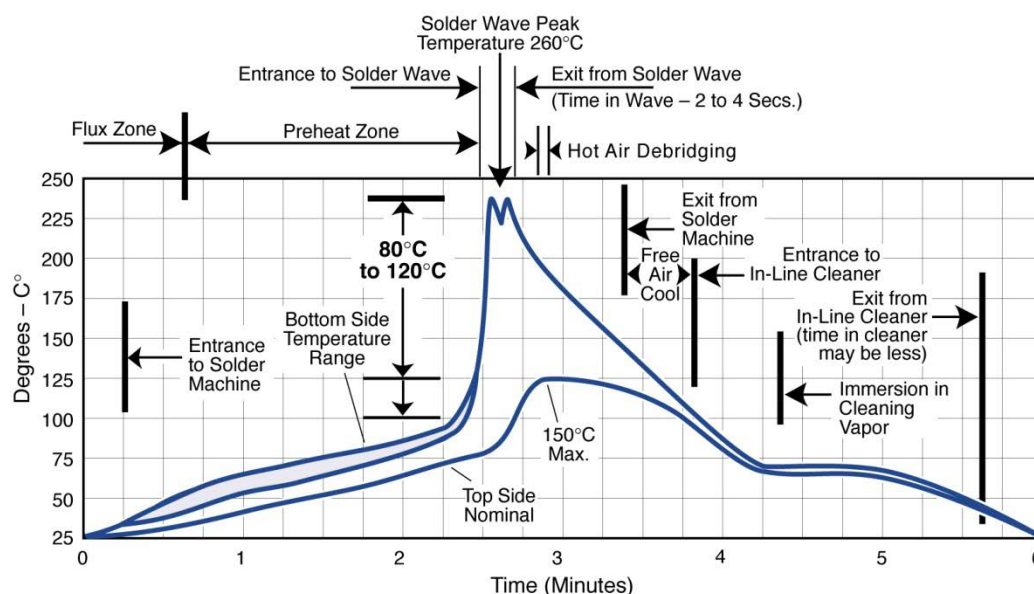
P max = maximum watts

R = ESR at specified frequency (ohms)

I = rms ripple current (amperes)

Z = capacitor impedance in ohms at the specified frequency

## Optimum Solder Wave Profile



## Mounting

All encased capacitors will pass the Resistance to Soldering Heat Test of MIL-STD-202, Method 210, Condition C. This test simulates wave solder of topside board mount product. This demonstration of resistance to solder heat is in accordance with what is believed to be the industry standard. More severe treatment must be considered reflective of an improper soldering process. The above figure is a recommended solder wave profile for both axial and radial leaded solid tantalum capacitors.

## Capacitor Marking

GR500/T210

Case A

|             |                                       |
|-------------|---------------------------------------|
| +T 210      | ← Polarity Symbol, Series designator  |
| K 10% S     | ← K = KEMET, Tolerance & Failure rate |
| R68 $\mu$ F | ← Capacitance                         |
| 50V         | ← Voltage                             |
| 330 AA      | ← Date Code & Batch designator        |

Case B

|               |                                                 |
|---------------|-------------------------------------------------|
| +K T210 B     | ← Polarity, KEMET, Series designator, case size |
| 475K050       | ← KEMET Part Number                             |
| SS4R7 $\mu$ F | ← KEMET Part Number (continued)                 |
| 50V 10%       | ← Voltage, Tolerance                            |
| 1330 AA       | ← Date Code & Lot Symbol                        |

Case C & D

| Date Code *                                                  |                                                                                    |
|--------------------------------------------------------------|------------------------------------------------------------------------------------|
| 1 <sup>st</sup> digit = Last number of Year                  | 2 = 2012<br>3 = 2013<br>4 = 2014                                                   |
| 2 <sup>nd</sup> and 3 <sup>rd</sup> digit = Week of the Year | 01 = 1 <sup>st</sup> week of the Year to<br>52 = 52 <sup>nd</sup> week of the Year |

|                |                                 |
|----------------|---------------------------------|
| + KEMET        | ← Polarity Symbol, KEMET        |
| T210C106K      | ← KEMET Part Number             |
| 035SS 10%      | ← KEMET Part Number (continued) |
| 10 $\mu$ F 35V | ← Capacitance, Voltage          |
| 1330 AA        | ← Date Code & Lot Symbol        |

## Storage

Tantalum hermetically sealed capacitors should be stored in normal working environments. While the capacitors themselves are quite robust in other environments, solderability will be degraded by exposure to high temperatures, high humidity, corrosive atmospheres, and long term storage. In addition, packaging materials will be degraded by high temperature—reels may soften or warp and tape peel force may increase. KEMET recommends that maximum storage temperature not exceed 40°C and maximum storage humidity not exceed 60% relative humidity. Temperature fluctuations should be minimized to avoid condensation on the parts and atmospheres should be free of chlorine and sulphur bearing compounds. For optimized solderability capacitors stock should be used promptly, preferably within three years of receipt.

## Packaging

Capacitors shall be packaged in individual container compartments. Packaging methods and materials used shall prevent degradation of capacitor characteristics as determined by this specification.

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