



The flexible solution

Guide to product range

ICW offers capacitors in a variety of different styles and packages.
An overview of our individual product ranges is shown here.

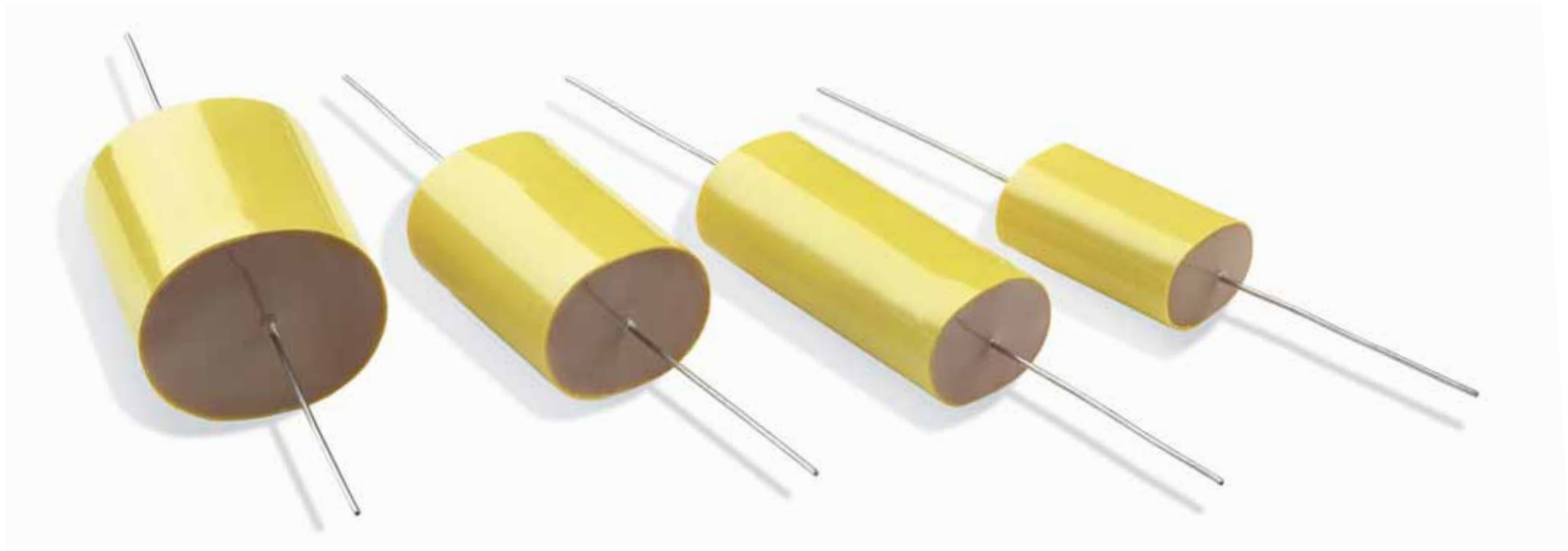
Product	Dielectric		Style					Voltage												Capacitance Range	
	Polypropylene	Polyester	Radial	Axial	Cased	Feedthrough	Stud Mounted / Flatpack	63Vdc	100Vdc	160Vdc	250Vdc	400Vdc	630Vdc	1000Vdc	1100Vdc	1400Vdc	1800Vdc	250Vac	500Vac		660Vac
AX	■			■														■			100nF - 33uF
AP	■			■															■	■	10nF - 3u3F
TW		■		■				■	■	■	■	■	■								68nF - 100uF
PW	■			■						■	■	■	■								10nF - 100uF
FP	■	■					■	■	■	■	■	■	■	■				■	■	■	1uF - 400uF
SMF	■	■					■	■	■	■	■	■	■	■				■	■	■	10uF - 400uF
COAX	■	■				■		■	■	■	■	■	■	■				■	■	■	10uF - 400uF
PC	■	■			■			■	■	■	■	■	■	■	■	■	■	■	■	■	5uF - 500uF
SEG	■				■										■	■	■				22uF - 100uF
Specials	■	■	■	■	■	■	■	■	■	■	■	■	■	■				■	■	■	10nF - 600uF

Axials : AC Voltage rated

AX : Polypropylene 250Vac rated

AP : Polypropylene 500Vac & 660Vac rated

Polypropylene axial wrap and end seal style capacitors offering low loss characteristics. Ideally suited to applications such as mains filters and where pulse performance is important.



Full text description

Both of these capacitors are constructed using the familiar 'wrap and end seal' method - wrapping the wound elements with heavy duty electrical tape which is wider than the element and sealing the cavities formed at each end with epoxy resin. This style of manufacture results in a cost effective and volumetrically efficient component of the highest quality.

The AX capacitors are suitable for pulse type circuits where high peak current handling capability is essential or at high frequency ac voltages where low loss is of prime consideration. The higher voltage handling capabilities of the AP range makes them ideally suited to applications such as mains filtering and higher voltage pulse applications.

Technical details

Capacitance range	AX : 100nF to 2μ2F AP : 10nF to 2μ2F	Temperature range	-55 to +100°C
Tolerance	±10% standard. Others by request	Environmental category	55/100/56 to EN60068 - 1 (IEC68 - 1)
Dissipation factor	≤ 0.001 @ 1KHz & 20±3°C	Proof voltage test	1.5 x rated voltage for 30s. Not to be repeated
Insulation resistance	≥ 10 ⁴ MΩ-μF (C>330nF), ≥ 3 x 10 ⁴ MΩ (C≤ 330nF) @ 250Vac for AX and 500Vdc for AP and 20±3°C	Solderability	BS2011 : Part 2.1 T (IEC 68 - 2 - 20) Solder Globule Method of test Ta
Rated voltage	AX : 250Vac AP : 500 and 660Vac	Vibration	EN60068 - 2 - 6 (IEC 68 - 2 - 6) Test Fc 10 to 500 Hz 0.75mm or 98m/s ²
Pulse performance	See table. Ratings assume linear change to / from rated voltage	Bump	EN60068 - 2 - 29 (IEC 68 - 2 - 29) Test Eb 390m/s ² 1000±10 bumps

Size chart : Axials : AX & AP

	AX : 250Vac / 400Vdc				AP : 500Vac / 1000Vdc				AP : 660Vac / 1500Vdc			
CAP (µF)	L	W	T	t	L	W	T	t	L	W	T	t
0.01									29	6.5	4	0.6
0.015									29	7.5	5	0.6
0.022									29	9	6.5	0.6
0.033									29	12	6.5	0.6
0.047									29	14	8.5	0.6
0.068									29	16	10.5	0.8
0.1	19	6	11	0.6	29	16	10	0.8	29	18.5	13	0.8
0.15	19	7.5	12	0.6	29	18.5	11.5	0.8	29	22	16.5	0.8
0.22	19	9	14	0.6	29	21.5	14.5	0.8	46	18.5	13	0.8
0.33	19	11.5	16	0.6	29	25	18	0.8	46	22	16.5	0.8
0.47	19	14	17.5	0.8	46	19.5	15	0.8	46	25.5	20	0.8
0.68	29	12	16	0.8	46	24	17.5	0.8	46	30	24.5	0.8
1.00	29	15	19	0.8	46	28	21.5	0.8	46	36	30.5	0.8
1.5	29	18	22	0.8	46	34	25	0.8	46	43.5	38	0.8
2.2	29	22	26	0.8	46	40	30	0.8				

AX Range : Terminations are tinned copper clad steel with a minimum length of 30mm

Pulse performance

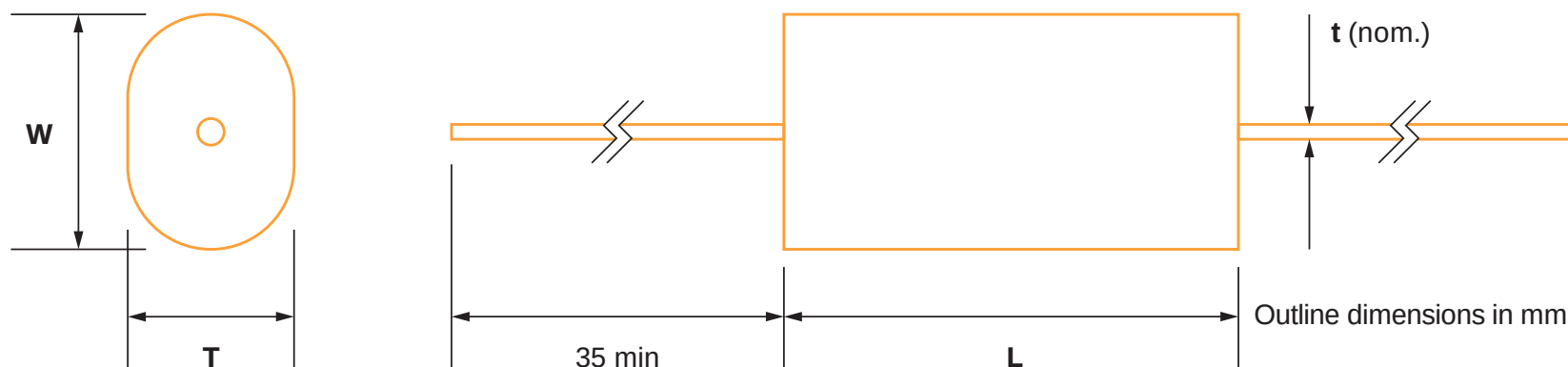
Body length (mm)	Rated voltage (Vdc)		
	250V AX	500V AP	660V AP
19	150		
29	100	80	100
46		50	70

Maximum rates of change of Voltage dV/dt (V/ μ S)

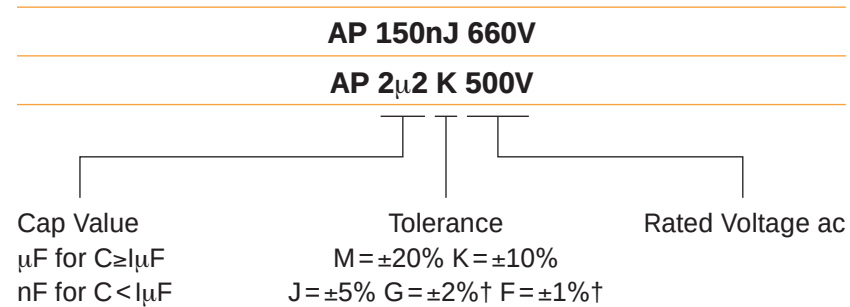
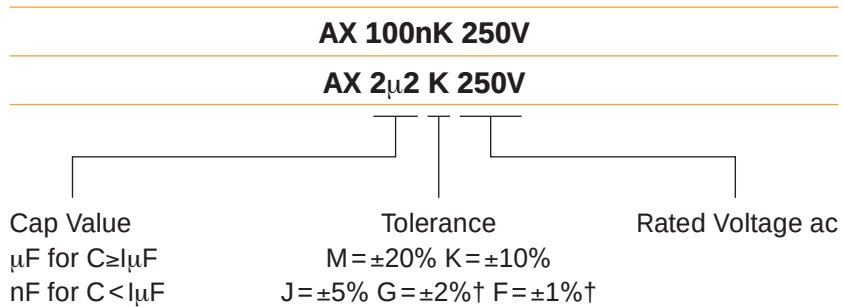
Figures quoted in the chart above assume linear charge/discharge to / from rated voltage.

When applied voltage (V_A) is less than the rated voltage (V_R) the rating may be increased by a factor V_R/V_A .

Outline dimensions



Ordering details



$\dagger$ subject to availability

Contact details

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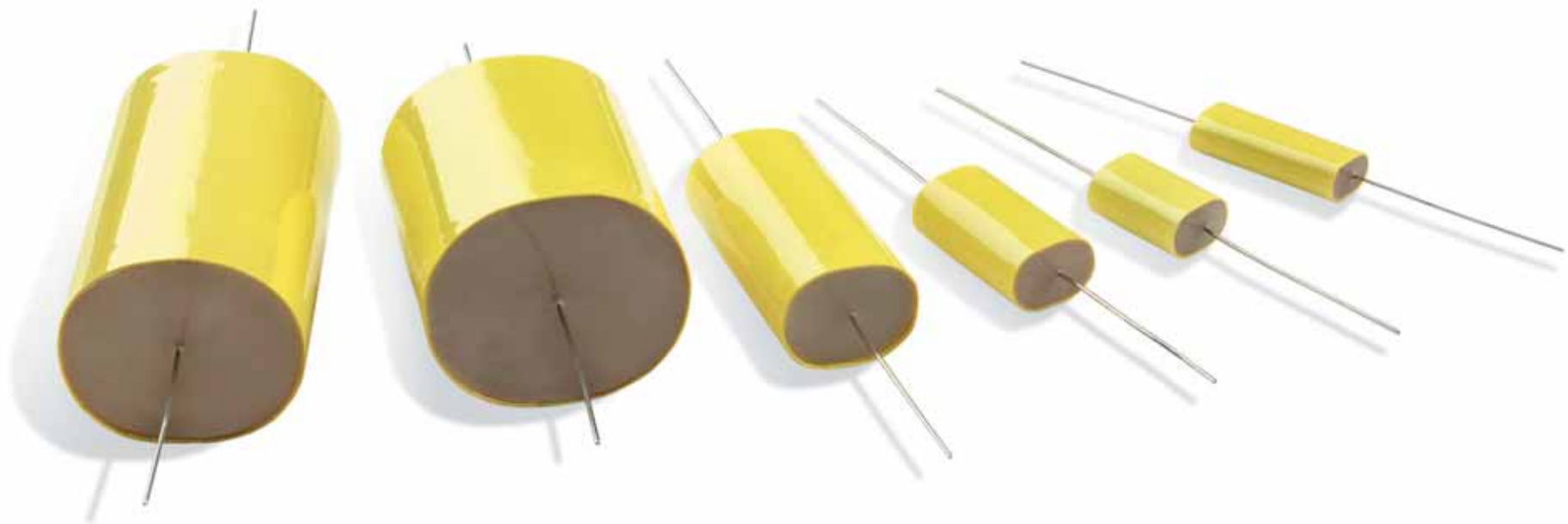
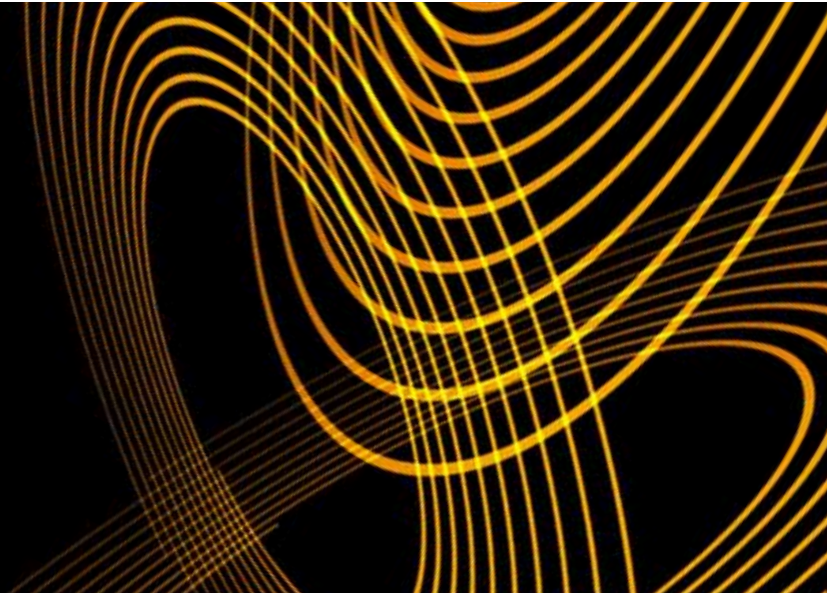
Web **www.icwltd.co.uk** Email **sales@icwltd.co.uk**

Axials : DC Voltage rated

TW : Polyester 63V - 630Vdc rated

PW : Polypropylene 160V - 630Vdc rated

General purpose polypropylene and polyester axial wrap and end seal capacitors. Offering a wide range of capacitance and voltage alternatives. Ideal for applications as diverse as coupling, energy storage in SMPS and high quality hi-fi.



Full text description

Both of these capacitors are constructed using the familiar 'wrap and end seal' method - wrapping the wound elements with heavy duty electrical tape which is wider than the element and sealing the cavities formed at each end with epoxy resin. This style of manufacture results in a cost effective and volumetrically efficient component of the highest quality.

The capacitance and voltage ranges are amongst the widest currently available, giving design engineers and component specifiers alike the flexibility to meet most of their needs from one source. Due to the low loss and low dielectric absorption performance of the PW range it lends itself to sample and hold circuits and high quality hi-fi. The TW range is ideal for applications as diverse as simple coupling and energy storage in switched mode power supplies.

Technical details

Capacitance range	Polypropylene : 68nF to 100μF Polyester : 10nF to 47μF See size chart for details	Temperature range	-55 to +100°C
Tolerance	±10% standard. Others by request	Environmental category	55/100/56 to EN60068 - 1 (IEC68 - 1)
Dissipation factor	Polypropylene ≤ 0.001 @ 1KHz & 20±3°C Polyester ≤ 0.008 @ 1KHz & 20±3°C	Proof voltage test	1.5 x rated voltage for 30s. Not to be repeated
Insulation resistance	≥ 10 ⁴ MΩ-μF (C > 330nF), ≥ 3 x 10 ⁴ MΩ (C ≤ 330nF) @ rated voltage and 20±3°C	Solderability	BS2011 : Part 2.1 T (IEC 68 - 2 - 20) Solder Globule Method of test Ta
Rated voltage	Polypropylene : 160V, 250V, 400V & 630Vdc Polyester : 63V, 100V, 160V, 250V 400V & 630Vdc	Vibration	EN60068 - 2 - 6 (IEC 68 - 2 - 6) Test Fc 10 to 500 Hz 0.75mm or 98m/s ²
Pulse performance	See table. Ratings assume linear change to / from rated voltage	Bump	EN60068 - 2 - 29 (IEC 68 - 2 - 29) Test Eb 390m/s ² 1000±10 bumps

Size chart : Axials : TW & PW : Part 1#3

CAP (µF)	TW : 63Vdc				TW : 100Vdc				PW : 160Vdc TW : 160Vdc							
	L	W	T	t	L	W	T	t	L	L	W	W	T	T	t	t
	TW	TW	TW	TW	TW	TW	TW	TW	PW	TW	PW	TW	PW	TW	PW	TW
0.01																
0.015																
0.022																
0.033																
0.047																
0.068																
0.1																
0.15																
0.22					15	7	4	0.6		15		7		4		0.6
0.33	15	7	4	0.6	15	8	5	0.6		15		8		5		0.6
0.47	15	8	5	0.6	15	9	6	0.6	20	15	11	10	6	7	0.6	0.6
0.68	15	9	6	0.6	20	8	5	0.6	20	20	12	9	7.5	6	0.6	0.6
1.0	20	8	5	0.6	20	9	7	0.6	20	20	14.5	11	10	8	0.6	0.6
1.5	20	10	7	0.6	20	11	8	0.6	30	20	14	13	9.5	10	0.8	0.8
2.2	20	11	8	0.6	20	13	10	0.8	30	20	16	14	11.5	12	0.8	0.8
3.3	30	12	7	0.8	30	14	8	0.8	30	30	18.5	16	14	10	0.8	0.8
4.7	30	14	8	0.8	30	16	10	0.8	34	30	19	18	14.5	12	0.8	0.8
6.8	30	16	10	0.8	30	19	13	0.8	34	30	22.5	21	17.5	15	0.8	0.8
10.0	30	19	13	0.8	30	22	16	0.8	34	30	26.5	25	22	19	0.8	0.8
15.0	34	20	14	0.8	34	23	17	0.8	47	34	26	26	21.5	20	0.8	0.8
22.0	34	23	18	0.8	34	27	21	0.8	47	34	31	31	26	25	0.8	0.8
33.0	34	28	22	0.8	34	33	27	0.8	47		37.5		33		0.8	
47.0	34	32	26	0.8					47		44		39		*0.8	
68.0									47		52		47		*0.8	
100.0									47		62		57		*0.8	

PW Range : *These values are available with tinned copper braid terminations for extra physical strength and current carrying capacity.

Size chart : Axials : TW & PW : Part 2#3

CAP (µF)	PW : 250Vdc TW : 250Vdc								PW : 400Vdc TW : 400Vdc							
	L	L	W	W	T	T	t	t	L	L	W	W	T	T	t	t
	PW	TW	PW	TW	PW	TW	PW	TW	PW	TW	PW	TW	PW	TW	PW	TW
0.01																
0.015																
0.022																
0.033																
0.047																
0.068		15		7		4		0.6		15		7		4		0.6
0.1		15		8		6		0.6		15		8		5		0.6
0.15	20	15	10	10	5	7	0.6	0.6	20	15	10	10	5.5	8	0.6	0.6
0.22	20	15	11	12	6	9	0.6	0.6	20	20	11.5	9	7	7	0.6	0.6
0.33	20	20	12.5	10	8	8	0.6	0.6	20	20	13.5	11	8.5	8	0.6	0.6
0.47	20	20	15	12	10	9	0.6	0.8	20	20	16	13	11	10	0.6	0.8
0.68	20	20	17	14	12.5	11	0.8	0.8	20	20	18	15	13.5	13	0.8	0.8
1.0	30	20	16	17	11.5	14	0.8	0.8	30	30	17	14	12.5	11	0.8	0.8
1.5	30	30	19	17	14	12	0.8	0.8	30	30	20	18	15	13	0.8	0.8
2.2	30	30	22	20	17.5	15	0.8	0.8	30	30	23.5	22	19	16	0.8	0.8
3.3	30	30	26.5	24	22	19	0.8	0.8	30	34	28	23	23.5	17	0.8	0.8
4.7	34	34	27	25	22.5	19	0.8	0.8	34	34	29.5	27	25	21	0.8	0.8
6.8	34	34	32	29	27	24	0.8	0.8	34	34	34.5	32	30	26	0.8	0.8
10.0	47	34	31	35	26	29	0.8	0.8	47	47	33.5	31	28.5	26	0.8	0.8
15.0	47	47	37	35	32	30	0.8	0.8	47	47	39.5	38	34.5	32	0.8	0.8
22.0	47	47	44	42	39	36	*0.8	0.8	47	47	47.5	46	42.5	40	*0.8	0.8
33.0	60		46		41		*0.8		60		49		44		*0.8	
47.0	60		54		49		*0.8		60		59		54		*0.8	
68.0																
100.0																

PW Range : *These values are available with tinned copper braid terminations for extra physical strength and current carrying capacity.

Size chart : Axials : TW & PW : Part 3#3

CAP (μF)	PW : 630Vdc TW : 630Vdc							
	L	L	W	W	T	T	t	t
	PW	TW	PW	TW	PW	TW	PW	TW
0.01		15		6		3		0.6
0.015		15		7		4		0.6
0.022		15		8		5		0.6
0.033		15		9		6		0.6
0.047		20		8		5		0.6
0.068	20	20	10.5	9	5.5	6	0.6	0.6
0.1	20	20	11.5	11	6.5	8	0.6	0.6
0.15	20	30	13.5	10	8.5	7	0.6	0.6
0.22	30	30	12.5	12	8	9	0.6	0.8
0.33	30	30	14.5	15	10	12	0.6	0.8
0.47	30	30	16.5	18	12	13	0.8	0.8
0.68	30	34	19.5	19	15	13	0.8	0.8
1.0	34	34	20.5	22	15.5	17	0.8	0.8
1.5	34	34	24	27	19.5	21	0.8	0.8
2.2	34	47	28.5	27	24	21	0.8	0.8
3.3	47	47	28	32	23	26	0.8	0.8
4.7	47	47	33	38	28	32	0.8	0.8
6.8	47	47	39	45	34	39	0.8	0.8
10.0	47		46.5		41.5		*0.8	
15.0								
22.0								
33.0								
47.0								
68.0								
100.0								

PW Range : *These values are available with tinned copper braid terminations for extra physical strength and current carrying capacity.

Rated voltage (Vdc)

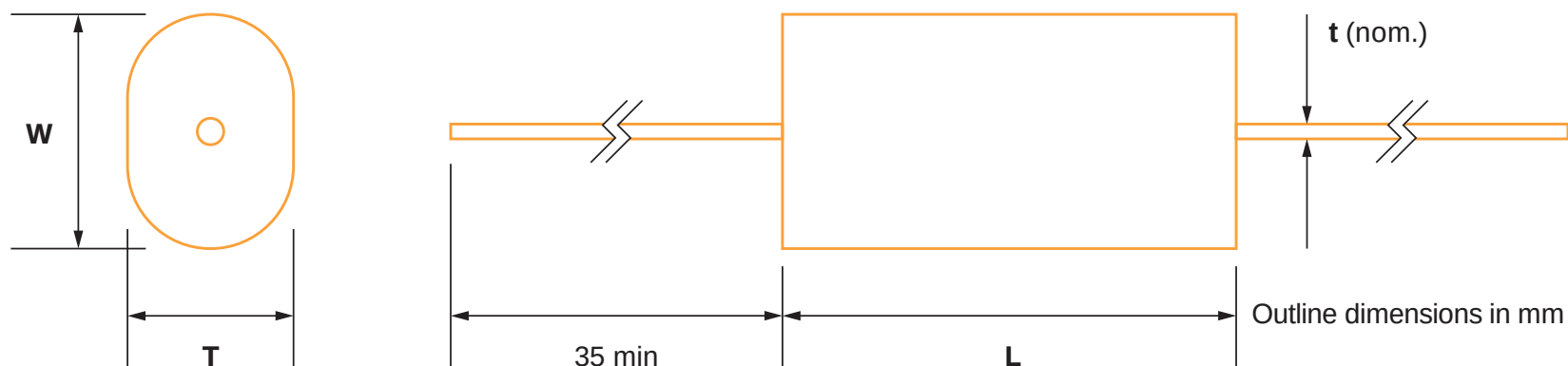
Body length (mm)	Rated voltage (Vdc)									
	63V TW	100V TW	160V		250V		400V		630V	
			TW	PW	TW	PW	TW	PW	TW	PW
15	17	27	35		40		60		80	
20	7	11	13	20	15	80	25	150	35	200
30	3.5	4.5	6	15	7	50	11	100	15	150
34	2.5	4	5	10	5.5	35	9	50	11	60
47	1.5	2.5	3	5	4	12	6	20	8	26
60				2		5		10		15

Maximum rates of change of Voltage dV/dt (V/μS)

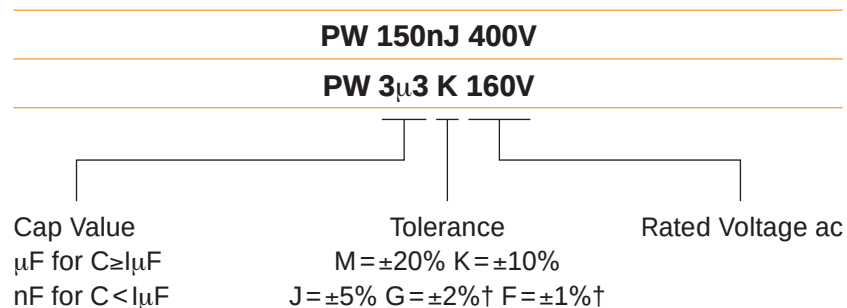
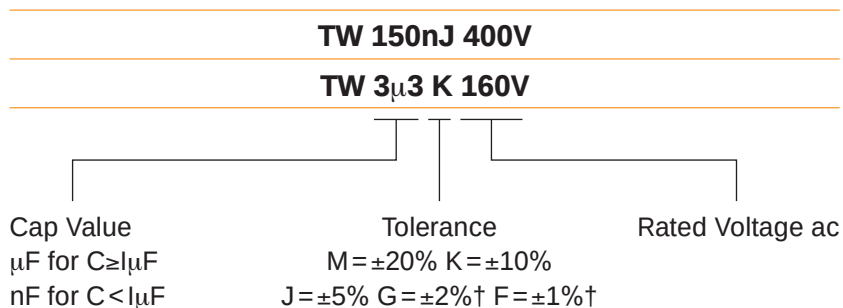
Figures quoted in the chart above assume linear charge/discharge to / from rated voltage.

When applied voltage (V_A) is less than the rated voltage (V_R) the rating may be increased by a factor V_R/V_A .

Outline dimensions



Ordering details



† subject to availability

Contact details

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Web **www.icwltd.co.uk** Email **sales@icwltd.co.uk**

Power Electronic : DC Voltage rated

FP / SMF / COAX

Ranges available in both polyester and polypropylene

Polypropylene and polyester power capacitors. The three differently terminated components are ideally suited to applications such as high frequency filtering, thyristor commutation, energy storage in SMPS and inverter circuits.



Full text description : Part 1#2

These ranges of capacitors have been developed to meet the needs of circuit designers working in the field of power electronics who require capacitors with low loss, low inductance, good volumetric efficiency and easy mounting.

The scope of possible applications is large including high frequency filtering, thyristor commutation, energy storage in switched mode power supplies and inverter circuits. The COAX range lends itself particularly well to applications requiring very low levels of self-inductance such as special filter and pulse applications.

All ranges are available with either metallised polypropylene or polyester dielectric with the SMF and COAX produced using the familiar 'wrap and end seal' method – wrapping the wound elements with heavy duty electrical tape which is wider than the element and sealing the cavities formed at each end with high grade, moisture resistant epoxy resin. This style of manufacture results in a cost effective and volumetrically efficient component of the highest quality.

The major differences between the ranges are the termination arrangements. The FP range has no conventional terminals. It has been designed to clamp between two conductive surfaces, possibly heatsinks. This assembly ensures that heat generated within the device is conducted away most efficiently, allowing the maximum amount of power to be dissipated whilst maintaining a satisfactory temperature increase.

Full text description : Part 2#2

The terminals of the COAX can be M8 threaded bush at one end and an M16 boss at the other, thus providing the possibility of passing a terminal through the centre of the device and realising a truly 'coaxial' connection. Other thread types can be provided to special order, or the centre rod can be factory fitted with the bottom end totally enclosed.

The terminals of the SMF range can be M8 studs (male), M8 tapped holes (female) or a combination of both types, allowing the capacitors to be stacked together thus enabling series/ parallel arrays to be realised. Again other thread types are available to order.

Technical details

Capacitance range	Polypropylene : 10 μ F - 400 μ F Polyester : 5 μ F - 500 μ F See size chart for details	Temperature range	-55 to +100°C
Tolerance	±10% standard. Others by request	Environmental category	55/100/56 to EN60068 - 1 (IEC68 - 1)
Dissipation factor	Polypropylene ≤ 0.001 @ 1KHz & 20±3°C Polyester ≤ 0.008 @ 1KHz & 20±3°C	Proof voltage test	1.5 x rated voltage for 30s. Not to be repeated
Insulation resistance	≥ 10 ⁴ MΩ-μF @ rated voltage & 20±3°C	RMS current rating	Dependant upon several factors, including rated voltage, waveform and heat sinking but typically 50 - 100A. Contact our Technical Department for further advice
Rated voltage	Polypropylene : 160V, 250V, 400V, 630V 1000V & 1500Vdc Polyester : 63V, 100V, 160V, 250V 400V & 630Vdc		
Pulse performance	See table. Ratings assume linear change to / from rated voltage		

Size chart : Power Electronic : **FP / SMF / COAX** : Part 1#5

CAP (μF)	L(mm)±1	L (mm)±2	L(mm)±2	+ Code			63Vdc			100Vdc		
	FP	SMF	COAX	FP	SMF	COAX	FP	SMF	COAX	FP	SMF	COAX
10	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51						
50	29	40	40	27	27	27				36	36	36
-	40	51	51	38	38	38						
-	53	64	64	51	51	51						
-	77	88	88	75	75	75						
100	29	40	40	27	27	27	42	42	42	49	49	49
-	40	51	51	38	38	38	35	35	35	42	42	42
-	53	64	64	51	51	51				36	36	36
-	77	88	88	75	75	75						
200	29	40	40	27	27	27	59	59	59	68	68	68
-	40	51	51	38	38	38	49	49	49	57	57	57
-	53	64	64	51	51	51				49	49	49
-	77	88	88	75	75	75						
300	29	40	40	27	27	27	72	72	72	84	84	84
-	40	51	51	38	38	38	59	59	59	69	69	69
-	53	64	64	51	51	51				60	60	60
-	77	88	88	75	75	75						
400	29	40	40	27	27	27	82	82	82			
-	40	51	51	38	38	38	68	68	68	79	79	79
-	53	64	64	51	51	51				68	68	68
-	77	88	88	75	75	75						

Coax Devices : Figures in brackets indicate Polypropylene devices (COAXP)

FP Devices : Figure in brackets indicate Polypropylene Devices (FPP)

SMF Devices : Figures in brackets indicate Polypropylene devices (SMFP)

Size chart : Power Electronic : **FP / SMF / COAX** : Part 2#5

CAP (μF)	L(mm)±1	L (mm)±2	L(mm)±2	+ Code			160Vdc					
	FP	SMF	COAX	FP	SMF	COAX	FP		SMF		COAX	
10	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51						
50	29	40	40	27	27	27	40	(54)	40	(54)	40	(54)
-	40	51	51	38	38	38	-	(45)	-	(45)	-	(45)
-	53	64	64	51	51	51	-	(39)	-	(39)	-	(39)
-	77	88	88	75	75	75						
100	29	40	40	27	27	27	56	(76)	56	(76)	56	(76)
-	40	51	51	38	38	38	46	(63)	46	(63)	46	(63)
-	53	64	64	51	51	51	40	(54)	40	(54)	40	(54)
-	77	88	88	75	75	75	-	(44)	-	(44)	-	(44)
200	29	40	40	27	27	27	78		78	(-)	78	(-)
-	40	51	51	38	38	38	64	(88)	64	(88)	64	(88)
-	53	64	64	51	51	51	55	(75)	55	(75)	55	(75)
-	77	88	88	75	75	75	46	(62)	46	(62)	46	(62)
300	29	40	40	27	27	27						
-	40	51	51	38	38	38	79		79	(-)	79	(-)
-	53	64	64	51	51	51	67		67	(-)	67	(-)
-	77	88	88	75	75	75	55	(75)	55	(75)	55	(75)
400	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51	79		79	(-)	79	(-)
-	77	88	88	75	75	75	64	(86)	64	(86)	64	(86)

Coax Devices : Figures in brackets indicate Polypropylene devices (COAXP)

FP Devices : Figure in brackets indicate Polypropylene Devices (FPP)

SMF Devices : Figures in brackets indicate Polypropylene devices (SMFP)

Size chart : Power Electronic : **FP / SMF / COAX** : Part 3#5

CAP (μF)	L(mm)±1	L (mm)±2	L(mm)±2	+ Code			250Vdc		
	FP	SMF	COAX	FP	SMF	COAX	FP	SMF	COAX
10	29	40	40	27	27	27	- (37)	- (37)	- (37)
-	40	51	51	38	38	38			
-	53	64	64	51	51	51			
50	29	40	40	27	27	27	66 (79)	66 (79)	66 (79)
-	40	51	51	38	38	38	55 (65)	55 (65)	55 (65)
-	53	64	64	51	51	51	47 (56)	47 (56)	47 (56)
-	77	88	88	75	75	75	39 (46)	39 (46)	39 (46)
100	29	40	40	27	27	27			
-	40	51	51	38	38	38	76	76 (-)	76 (-)
-	53	64	64	51	51	51	65 (78)	65 (78)	65 (78)
-	77	88	88	75	75	75	54 (64)	54 (64)	54 (64)
200	29	40	40	27	27	27			
-	40	51	51	38	38	38			
-	53	64	64	51	51	51			
-	77	88	88	75	75	75	75 (89)	75 (89)	75 (89)
300	29	40	40	27	27	27			
-	40	51	51	38	38	38			
-	53	64	64	51	51	51			
-	77	88	88	75	75	75			
400	29	40	40	27	27	27			
-	40	51	51	38	38	38			
-	53	64	64	51	51	51			
-	77	88	88	75	75	75			

Coax Devices : Figures in brackets indicate Polypropylene devices (COAXP)

FP Devices : Figure in brackets indicate Polypropylene Devices (FPP)

SMF Devices : Figures in brackets indicate Polypropylene devices (SMFP)

Size chart : Power Electronic : **FP / SMF / COAX** : Part 4#5

CAP (μF)	L(mm)±1	L (mm)±2	L(mm)±2	+ Code			400Vdc					
	FP	SMF	COAX	FP	SMF	COAX	FP		SMF		COAX	
10	29	40	40	27	27	27	40	(47)	40	(47)	40	(47)
-	40	51	51	38	38	38	-	(39)	-	(39)	-	(39)
-	53	64	64	51	51	51						
50	29	40	40	27	27	27	86		86	(-)	86	(-)
-	40	51	51	38	38	38	70	(84)	70	(84)	70	(84)
-	53	64	64	51	51	51	61	(72)	61	(72)	61	(72)
-	77	88	88	75	75	75	50	(59)	50	(59)	50	(59)
100	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51	84		84		84	
-	77	88	88	75	75	75	69	(83)	69	(83)	69	(83)
200	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51						
-	77	88	88	75	75	75						
300	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51						
-	77	88	88	75	75	75						
400	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51						
-	77	88	88	75	75	75						

Coax Devices : Figures in brackets indicate Polypropylene devices (COAXP)

FP Devices : Figure in brackets indicate Polypropylene Devices (FPP)

SMF Devices : Figures in brackets indicate Polypropylene devices (SMFP)

Size chart : Power Electronic : **FP / SMF / COAX** : Part 5#5

CAP (μF)	L(mm)±1	L (mm)±2	L(mm)±2	+ Code			630Vdc					
	FP	SMF	COAX	FP	SMF	COAX	FP		SMF		COAX	
10	29	40	40	27	27	27	57	(57)	57	(57)	57	(57)
-	40	51	51	38	38	38	47	(48)	47	(48)	47	(48)
-	53	64	64	51	51	51	41	(41)	41	(41)	41	(41)
50	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51	87	(89)	87	(89)	87	(89)
-	77	88	88	75	75	75	71	(72)	71	(72)	71	(72)
100	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51						
-	77	88	88	75	75	75						
200	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51						
-	77	88	88	75	75	75						
300	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51						
-	77	88	88	75	75	75						
400	29	40	40	27	27	27						
-	40	51	51	38	38	38						
-	53	64	64	51	51	51						
-	77	88	88	75	75	75						

Coax Devices : Figures in brackets indicate Polypropylene devices (COAXP)

FP Devices : Figure in brackets indicate Polypropylene Devices (FPP)

SMF Devices : Figures in brackets indicate Polypropylene devices (SMFP)

Pulse performance

Body length (mm)	Rated voltage (Vdc)									
	63V ▲	100V ▲	160V		250V		400V		630V	
40	3	4	▲ 4.5	● 14	▲ 7	● 21	▲ 10	● 29	▲ 16	● 43
51	2	2.6	▲ 3	● 10	▲ 5	● 15	▲ 7	● 20	▲ 11	● 30
64		2	▲ 2.5	● 7.5	▲ 4	● 12	▲ 5	● 15	▲ 7.5	● 22
88			▲ 2	● 5	▲ 3	● 8.5	▲ 3.5	● 10	▲ 5.5	● 15

▲ Polyester ● Polypropylene

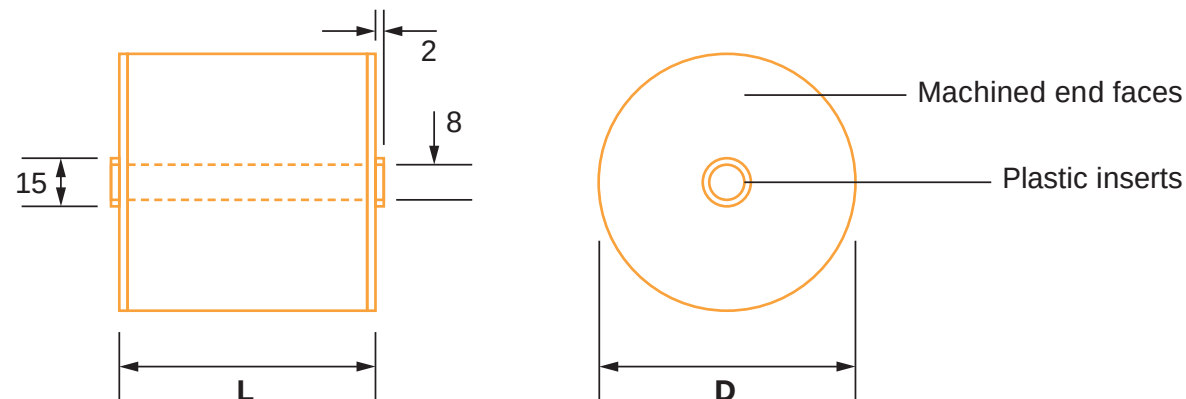
Maximum rates of change of Voltage dV/dt (V/μs)

Figures quoted in the chart above assume linear charge/discharge to / from rated voltage.

When applied voltage (V_A) is less than the rated voltage (V_R) the rating may be increased by a factor V_R/V_A .

Outline dimensions

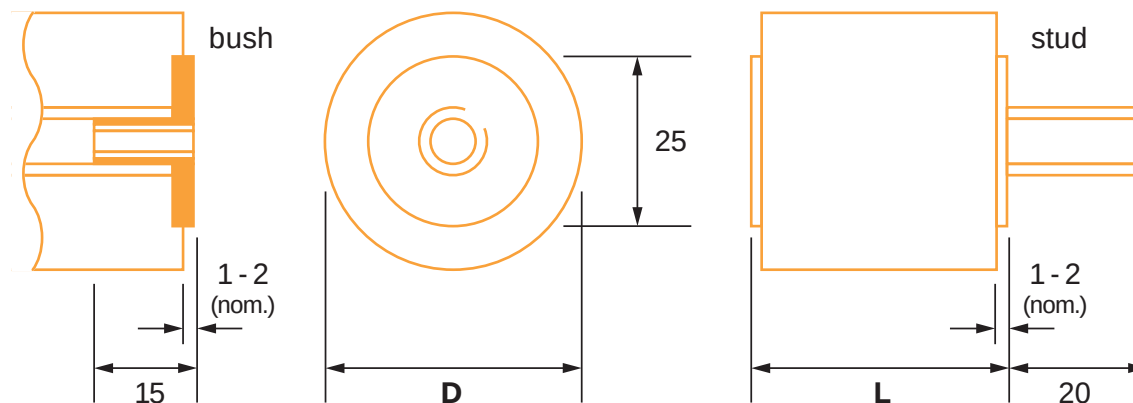
FP



Outline dimensions in mm ± 0.5

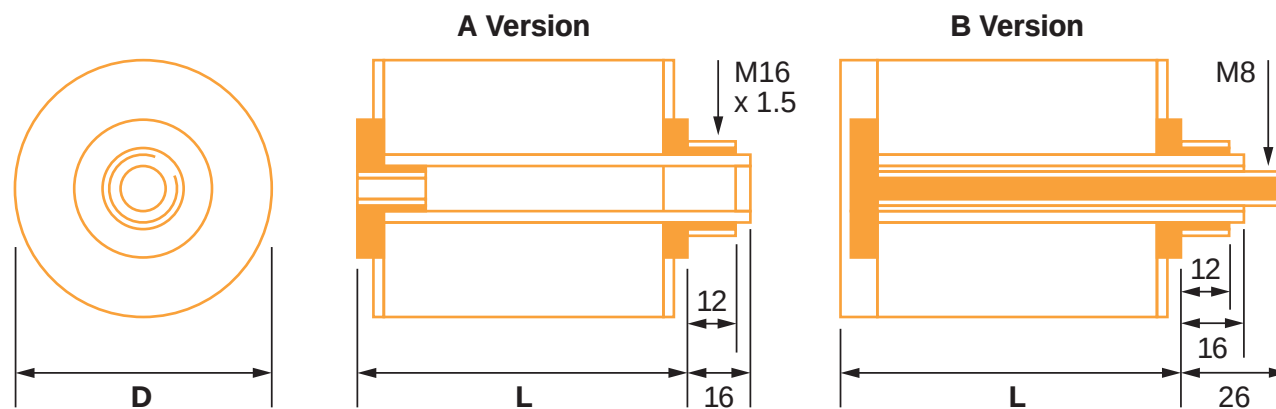
Outline dimensions

SMF



Outline dimensions in mm ± 0.5 . Unless otherwise stated

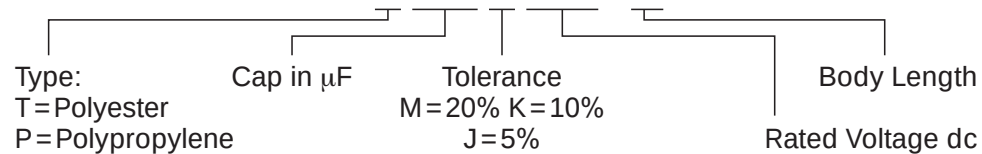
COAX



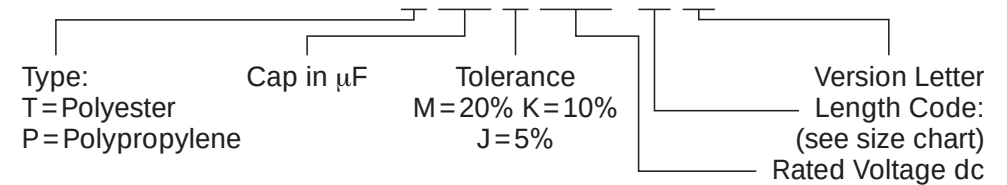
Outline dimensions in mm ± 0.5

Ordering details

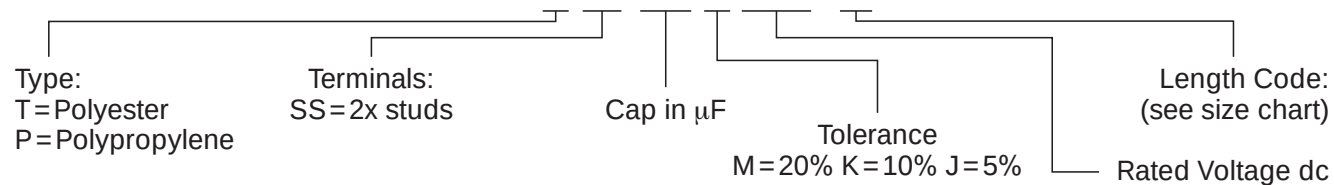
FP T 100 μ K 250V - 27



COAX T 50 μ K 100V -38/A



SMFP SB 50 μ K 100V -38



Contact details

Industrial Capacitors (Wrexham) Ltd

Miners Road Llay Wrexham North Wales LL12 0PJ

Telephone **44 (0)1978 853805** Facsimile **44 (0)1978 853785**

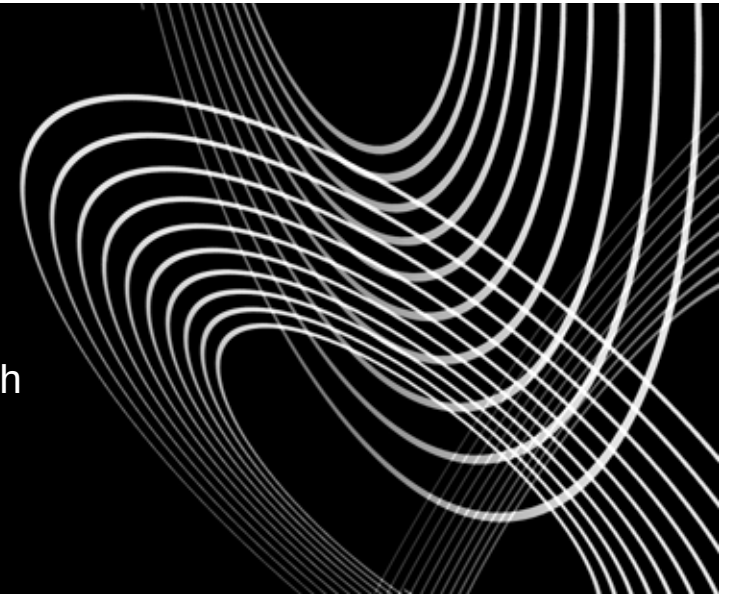
Web **www.icwltd.co.uk** Email **sales@icwltd.co.uk**

Power Electronic : DC Voltage rated

PCT : Polyester

PCP : Polypropylene

Polypropylene and polyester power capacitors housed in aluminium cases offering the maximum size options. Suited to applications such as high frequency filtering, thyristor commutation, energy storage in SMPS and inverter circuits.



Full text description

The PCT (polyester) and PCP (polypropylene) ranges have been developed to meet the needs of circuit designers working in the field of power electronics who require capacitors with low loss, good environmental capability, flexibility of design and easy mounting.

The devices are ideal for applications such as thyristor commutation, high frequency filtering, energy storage in switch mode power supplies and inverter circuits.

The PCT/PCP ranges are housed in aluminium cans with screw terminals or flying leads. Base mounting studs are available if required and most values are available with alternative aspect ratios (the ratio of diameter to length) to suit individual applications. Thus the circuit designer is provided with the maximum number of choices in order to optimise his designs.

Technical details

Capacitance range	Polypropylene : 5 μ F - 300 μ F Polyester : 5 μ F - 500 μ F See size chart for details	Temperature range	-40 to +85°C
Tolerance	$\pm 10\%$ standard. Others by request	Environmental category	40/85/21 to EN60068 - 1 (IEC68 - 1)
Dissipation factor	Polypropylene ≤ 0.001 @ 1KHz & 20 $\pm 3^\circ$ C Polyester ≤ 0.008 @ 1KHz & 20 $\pm 3^\circ$ C	Proof voltage test	1.5 x rated voltage for 30s. Not to be repeated.
Insulation resistance	$\geq 10^4 \text{M}\Omega\text{-}\mu\text{F}$ @ rated voltage and 20 $\pm 3^\circ$ C	RMS current rating	Dependant upon several factors, including rated voltage, waveform and heat sinking but typically 50 - 100A. Contact our Technical Department for further advice
Rated voltage	Polypropylene : 160V, 250V, 400V & 700V dc Polyester : 63V, 100V, 160V, 250V 400V & 700Vdc		
Pulse performance	See table. Ratings assume linear change to / from rated voltage		

Size chart : Power Electronic : PCT & PCP

LETTER	DIA (±0.5)	L (±1)
A	50	70
B	63.5	70
C	76	70
D	50	110
E	63.5	110
F	76	110
G	50	145
H	63.5	145
I	76	145

CAP (μF)	PCP : Polypropylene			
	160	250	400	700
5			A	A
10			A	B, D
15		A	B, D	B, D
20		A	B, D	C, E, G
25	A	B, D	C, E, G	E
30	A	B, D	C, E, G	E
40	A	D	E	F, H
50	B, D	C, E, G	F, H	F
60	B, D	E	F	I
70	B, D	E	F	
80	B, D	F, H	I	
90	D	F, H	I	
100	C, E, G	F	I	
125	E, G	I		
150	E, H	I		
175	F, H	I		
200	F, H			
250	I			
300	I			
400				
500				

PCT : Polyester					
63	100	160	250	400	700
					A
				A	B, D
				A	C, E, G
			A	B, D	E, G
			A	B, D	F, H
			A	D	F, H
			B, D	C, E, G	H
		A	B, D	E	I
		A	D	F, H	I
		A	C, E, G	F, H	
		A	C, E, G	F, H	
	A	B, D	E	F	
	A	B, D	E	I	
A	B, D	B, D	F, H	I	
A	B, D	B, D	I		
B, D	B, D	C, E, G	I		
B, D	C, D	C, E, G	I		
B, D	C, G	E			
C, D	C, E, G	E			
C, E	F, H	F, H			
E	F, H	I			

Pulse performance

	Rated voltage (Vdc)									
Case letter	63V ▲	100V ▲	160V ▲ ●		250V ▲ ●		400V ▲ ●		630V ▲ ●	
A, B, C, D, E, F	2	2.6	3	10	5	15	7	20	11	30
G, H, I	1.5	2	2.5	7.5	4	12	5	15	7.5	22

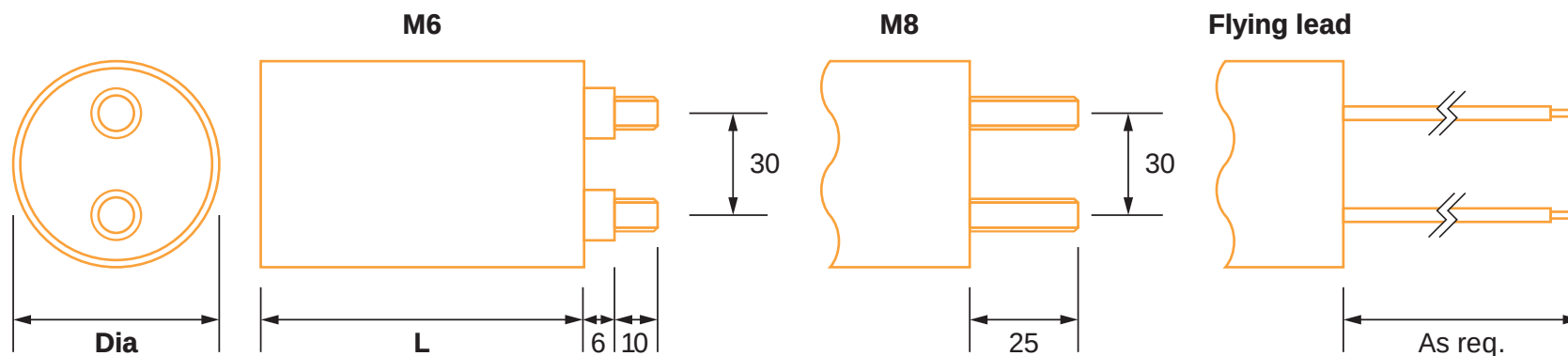
▲ Polyester ● Polypropylene

Maximum rates of change of Voltage dV/dt (V/ μ S)

Figures quoted in the chart above assume linear charge/discharge to / from rated voltage.

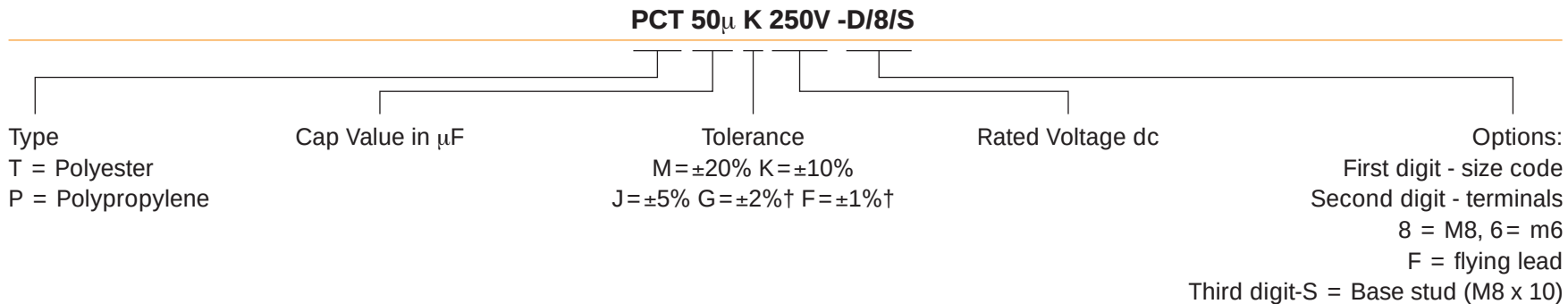
When applied voltage (V_A) is less than the rated voltage (V_R) the rating may be increased by a factor V_R/V_A .

Outline dimensions



Outline dimensions in mm ± 0.3

Ordering details



Note: when specifying flying leads, the type of lead (size, braid or PVC etc) should be fully stated

Contact details

ICW Capacitors Limited

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Power Electronic : DC Voltage rated

SEG Range : Polypropylene

The SEG range of capacitors has been designed to offer electronic circuit designers of dc filtering applications an alternative to electrolytic capacitors.

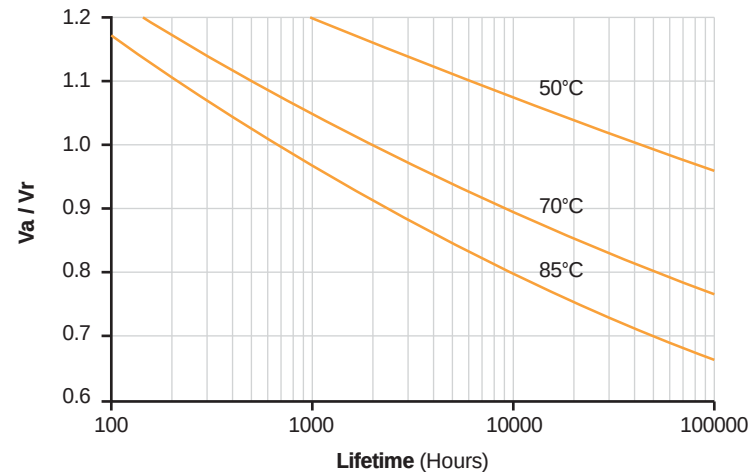
Manufactured from a special metallised polypropylene film, the component offers a very high volumetric efficiency along with very low losses and high current handling capability. The capacitors are housed in a choice of low profile cases, manufactured from material which meets the flammability requirements of UL 94-V0 and flanged for easy fixing.



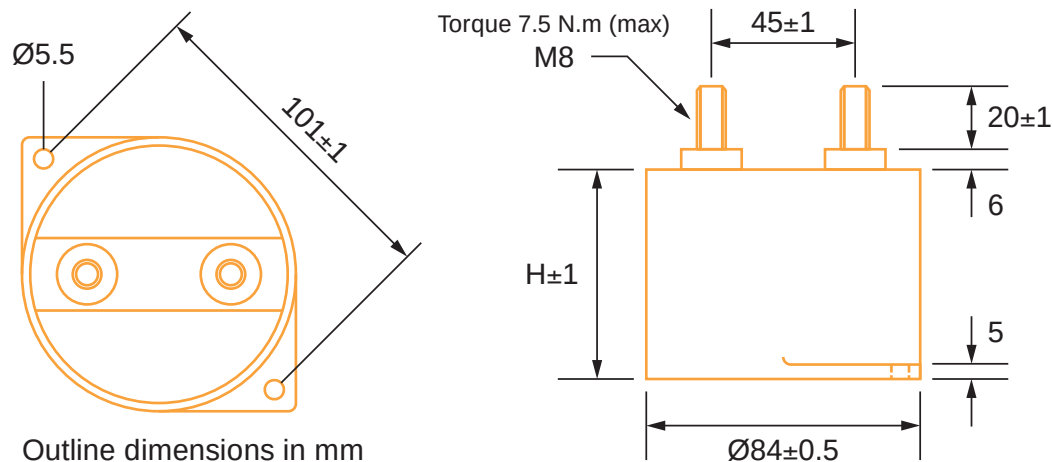
Technical details

Capacitance range	22 - 100 μF
Tolerance	$\pm 10\%$
Dissipation factor	≤ 0.001 at 1kHz & $20 \pm 3^\circ\text{C}$
Insulation resistance	$\Omega \geq 10,000 \text{ M}\Omega\text{-}\mu\text{F}$ @ 400 Vdc & $20 \pm 3^\circ\text{C}$
Rated voltage	1100 - 1800 Vdc (See graph for expected lifetime)
Temperature range	-55 to $+85^\circ\text{C}$
Environmental category	55/85/56 to EN60068 - 1 (IEC68 - 1)
Proof test voltage	1.25 x rated voltage for 30s. Not to be repeated
RMS current rating	Please contact us for information

Lifetime expectancy



Outline dimensions



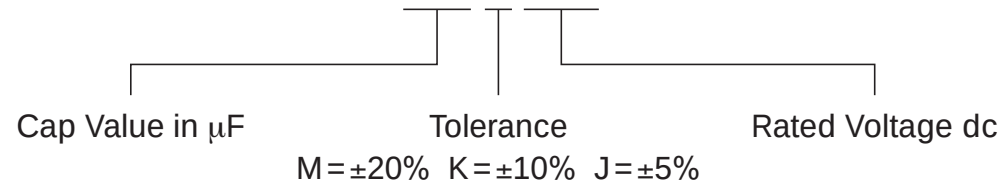
Size chart

Capacitance values in μF

Voltage	H=51	H=64
1100	60	100
1400	35	55
1800	22	35

Ordering details

SEG 100 μ K 1100 Vdc



Contact details

Industrial Capacitors (Wrexham) Ltd

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Telephone **44 (0)1978 853805** Facsimile **44 (0)1978 853785**

Web **www.icwltd.co.uk** Email **sales@icwltd.co.uk**

Power Electronic: DC Voltage rated

PCS Range : Polypropylene

The PCS range of capacitors has been designed to offer electronic circuit designers of dc filtering applications an alternative to electrolytic capacitors.

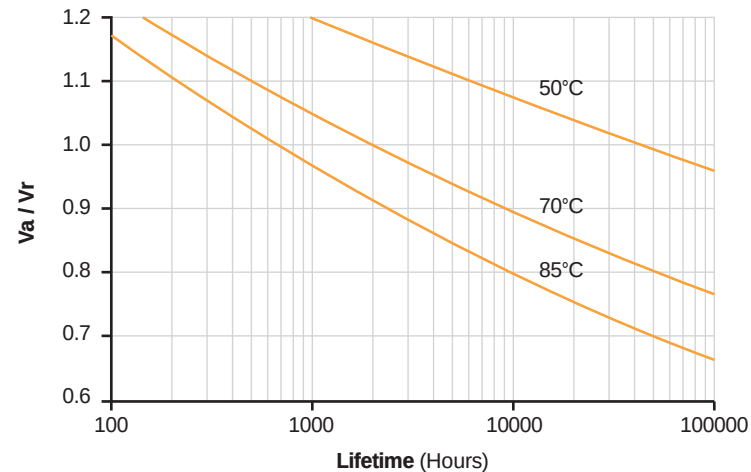
Manufactured from a special metallised polypropylene film, the component offers a very high volumetric efficiency along with very low losses and high current handling capability. The capacitors are housed in aluminium cans, with screw terminals or flying leads. Base mounting studs are available if required.



Technical details

Capacitance range	15 - 445 μ F
Tolerance	$\pm 10\%$
Dissipation factor	≤ 0.001 at 1kHz & $20 \pm 3^\circ\text{C}$
Insulation resistance	$\Omega \geq 10,000 \text{ M}\Omega\text{-}\mu\text{F}$ @ 400 Vdc & $20 \pm 3^\circ\text{C}$
Rated voltage	1100 - 1800 Vdc (See graph for expected lifetime)
Temperature range	-55 to $+85^\circ\text{C}$
Environmental category	55/85/56 to EN60068 - 1 (IEC68 - 1)
Proof test voltage	1.25 x rated voltage for 30s. Not to be repeated
RMS current rating	Please contact us for information

Lifetime expectancy



Component values

Rated voltage (Vdc)			
Can	1100	1400	1800
A	15		
B	30		
C	50	25	15
D	35	20	10
E	60	35	25
F	100	55	35
G	50	30	20
H	95	55	35
I	150	85	55
J	190	110	70

Rated voltage (Vdc)			
Can	1100	1400	1800
K	190	110	70
L	240	140	90
M	280	160	105
N	240	140	90
O	310	175	115
P	360	205	135
Q	300	170	115
R	385	220	145
S	445	255	170

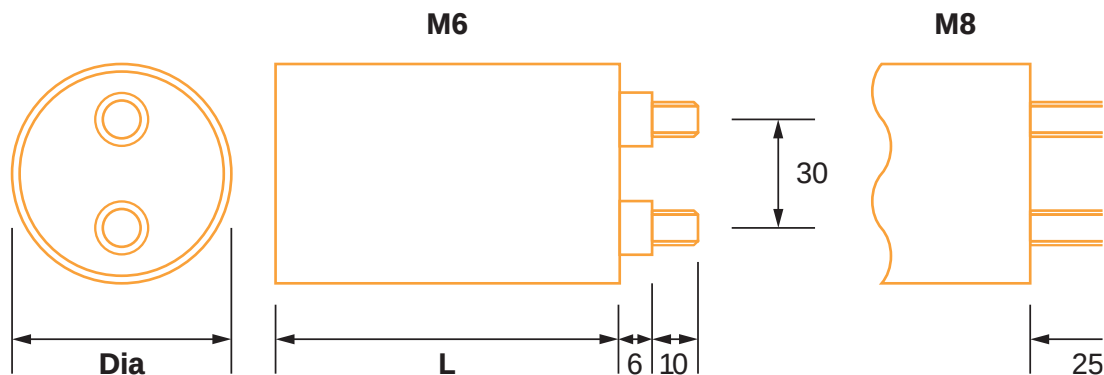
Capacitance values in μ F

Size chart

Can size	Diameter (± 0.1)	L (± 1)
A	50	70
B	63.5	70
C	76	70
D	50	110
E	63.5	110
F	76	110
G	50	145
H	63.5	145
I	76	145
J	84.4	145

Can size	Diameter (± 0.1)	L (± 1)
K	76	155
L	84.4	155
M	90	185
N	76	185
O	84.4	185
P	90	155
Q	76	185
R	84.4	185
S	90	185

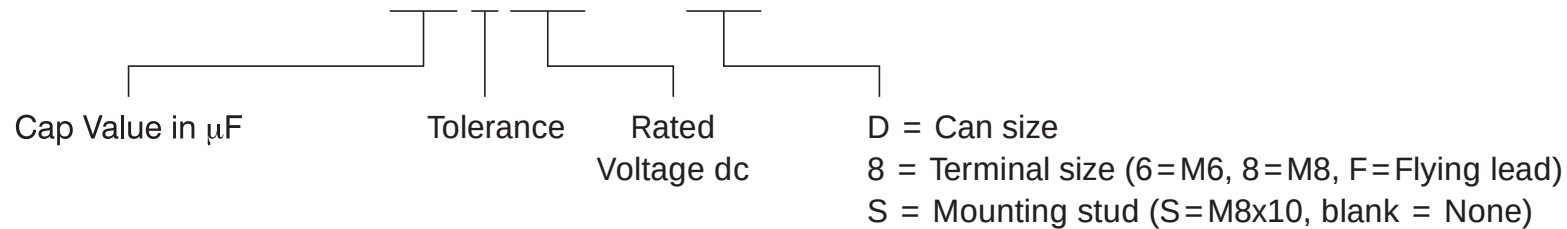
Outline dimensions



Outline dimensions in mm ± 0.3

Ordering details

PCS 55 μ K 1400 Vdc - H8S



Contact details

Industrial Capacitors (Wrexham) Ltd

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Web **www.icw ltd.co.uk** Email **sales@icw ltd.co.uk**

Specials : Made to measure

In the event of you requiring a component which isn't satisfied by our standard ranges of capacitors a solution may be possible.

We offer a design and development service to try to resolve any non standard requirement that you may have. The deviation from standard may be an unusual capacitance requirement, a need to alter the components physical dimension to allow for fitting into a specific space envelope or you may have a requirement for a non standard terminal arrangement.

We offer this service free of charge and our Technical Department is always on hand to discuss such requirements with you. Alternatively, please complete the enquiry form on the website and we shall be pleased to evaluate your requirements and respond back to you.



Audio range

ClarityCap - Audio grade capacitors

ICW also produces the highly regarded Claritycap™ brand of audio grade capacitors. For further information relating to these products please either contact us or visit our dedicated website at www.claritycap.co.uk

ClarityCap
AUDIO GRADE CAPACITORS

