

# Type DCF DC Filtering Metallized Polypropylene Capacitors

## High Capacitance, High Current, Low ESR, Low Inductance



Type DCF capacitors offer several robust terminal options for DC Filtering applications. DCF is designed to give high capacitance in a small package for high current and low ESR requirements. The metallized polypropylene construction inherently gives the advantage of low DF and stable performance over the rated temperature range.

### Highlights

- High Current
- High Capacitance
- Low ESR
- Low Inductance
- Terminal/Mounting Options
- Self Healing



### Specifications

**Rated Voltage:** 630 Vdc (250 Vac, 50/60 Hz)  
**Capacitance:** 5.0  $\mu$ F to 100  $\mu$ F  
**Capacitance Tolerance:**  $\pm$ 5%,  $\pm$ 10%  
**Operating Temperature:**  $-55^{\circ}$ C to  $+105^{\circ}$ C  
 Full rated voltage @  $+85^{\circ}$ C, derate linearly to 50% rated voltage at  $+105^{\circ}$ C

### Ratings

Cap. ( $\mu$ F)	Catalog Part Number	Case Dimensions			ESR Typical (m $\Omega$ )	Ripple Current @ 25 kHz			Reson. Freq. (kHz)	Peak Current (Ipeak)	Dv/Dt (V/ $\mu$ s)
		D Max. mm (inches)	L $\pm$ 1.0 (0.040) mm (inches)	L1/LS $\pm$ 1.5 mm (.060) Or As Specified mm (inches)		25 $^{\circ}$ C	55 $^{\circ}$ C	85 $^{\circ}$ C			
<b>630 Vdc (250 Vac, 50/60 Hz)</b>											
5.0	DCF6W5KP2-F	33.4 (1.315)	29.0 (1.142)	29.8 $\pm$ 1.0 (1.73 $\pm$ .040)	3.42	25.0	18.7	7.0	410.0	660	132
5.0	DCF6W5KL2-F	33.4 (1.315)	30.0 (1.181)	40.0 (1.575)	3.42	25.0	18.7	7.0	410.0	660	132
10.0	DCF6W10KP2-F	34.8 (1.370)	39.0 (1.535)	38.8 $\pm$ 1.0 (1.53 $\pm$ .040)	3.00	25.0	23.0	8.5	248.0	760	76
10.0	DCF6W10KL2-F	34.8 (1.370)	41.0 (1.614)	49.0 (1.929)	3.00	31.0	23.0	8.7	248.0	760	76
15.0	DCF6W15KB*-F	42.2 (1.661)	49.0 (1.929)	57.0 (2.244)	2.40	38.7	28.7	10.8	203.0	1140	76
15.0	DCF6W15KS*-F	42.2 (1.661)	39.0 (1.535)	81.0 (3.189)	2.40	38.7	28.7	10.8	203.0	1140	76
15.0	DCF6W15KL1-F	42.2 (1.661)	41.0 (1.614)	58.0 (2.283)	2.40	38.7	28.7	10.8	203.0	1140	76
20.0	DCF6W20KB*-F	41.3 (1.626)	57.5 (2.264)	66.5 (2.618)	2.23	42.3	31.4	11.8	152.0	1040	52
20.0	DCF6W20KS*-F	41.3 (1.626)	47.5 (1.870)	90.5 (3.563)	2.23	42.3	31.4	11.8	152.0	1040	52
20.0	DCF6W20KL1-F	41.3 (1.626)	49.5 (1.949)	67.5 (2.657)	2.23	42.3	31.4	11.8	152.0	1040	52
25.0	DCF6W25KB*-F	46.0 (1.811)	57.5 (2.264)	66.5 (2.618)	2.30	44.7	33.0	12.6	136.0	1300	52
25.0	DCF6W25KS*-F	46.0 (1.811)	47.5 (1.870)	90.5 (3.563)	2.30	44.7	33.0	12.6	136.0	1300	52
25.0	DCF6W25KL1-F	46.0 (1.811)	49.5 (1.949)	67.5 (2.657)	2.30	44.7	33.0	12.6	136.0	1300	52

\* Replace with 6 for M6 inserts or studs

\* Replace with 8 for M8 inserts or studs

ESR measured at Resonant Frequency for capacitance values above 15  $\mu$ F or 6 m $\Omega$  Max. at 20 kHz

Note: Additional voltage and capacitance values are available upon request.

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### Ratings

Cap. ( $\mu$ F)	Catalog Part Number	Case Dimensions			ESR Typical (m $\Omega$ )	Ripple Current @ 25 kHz			Reson. Freq. (kHz)	Peak Current (I <sub>peak</sub> )	Dv/Dt (V/ $\mu$ s)
		D Max. mm (inches)	L $\pm$ 1.0 (0.040) mm (inches)	L1/LS $\pm$ 1.5 mm (.060) Or As Specified mm (inches)		25°C	55°C	85°C			
<b>630 Vdc (250 Vac, 50/60 Hz)</b>											
30.0	DCF6W30KB*-F	50.3 (1.980)	57.5 (2.264)	66.5 (2.618)	2.63	44.4	33.0	12.5	124.0	1560	52
30.0	DCF6W30KS*-F	50.3 (1.980)	47.5 (1.870)	90.5 (3.563)	2.63	44.4	33.0	12.5	124.0	1560	52
30.0	DCF6W30KL1-F	50.3 (1.980)	49.5 (1.949)	67.5 (2.657)	2.63	44.4	33.0	12.5	124.0	1560	52
35.0	DCF6W35KB*-F	54.2 (2.134)	57.5 (2.264)	66.5 (2.618)	2.43	48.5	36.0	13.6	115.0	1820	52
35.0	DCF6W35KS*-F	54.2 (2.134)	47.5 (1.870)	90.5 (3.563)	2.43	48.5	36.0	13.6	115.0	1820	52
35.0	DCF6W35KL1-F	54.2 (2.134)	49.5 (1.949)	67.5 (2.657)	2.43	48.5	36.0	13.6	115.0	1820	52
40.0	DCF6W40KB*-F	57.7 (2.272)	57.5 (2.264)	66.5 (2.618)	2.30	52.1	38.7	14.6	108.0	2080	52
40.0	DCF6W40KS*-F	57.7 (2.272)	47.5 (1.870)	90.5 (3.563)	2.30	52.1	38.7	14.6	108.0	2080	52
40.0	DCF6W40KL1-F	57.7 (2.272)	49.5 (1.949)	67.5 (2.657)	2.30	52.1	38.7	14.6	108.0	2080	52
45.0	DCF6W45KB*-F	53.3 (2.098)	68.0 (2.677)	77.0 (3.031)	2.20	53.9	40.9	15.6	90.0	1710	38
45.0	DCF6W45KS*-F	53.3 (2.098)	58.0 (2.283)	101.0 (3.976)	2.20	53.9	40.9	15.6	90.0	1710	38
45.0	DCF6W45KL1-F	53.3 (2.098)	60.0 (2.362)	78.0 (3.071)	2.20	53.9	40.9	15.6	90.0	1710	38
50.0	DCF6W50KB*-F	56.1 (2.209)	68.0 (2.677)	77.0 (3.031)	2.60	51.3	38.1	14.4	85.0	1900	38
50.0	DCF6W50KS*-F	56.1 (2.209)	58.0 (2.283)	101.0 (3.976)	2.60	51.3	38.1	14.4	85.0	1900	38
50.0	DCF6W50KL1-F	56.1 (2.209)	60.0 (2.362)	78.0 (3.071)	2.60	51.3	38.1	14.4	85.0	1900	38
55.0	DCF6W55KB*-F	58.64 (2.309)	68.0 (2.677)	77.0 (3.031)	2.50	53.9	40.0	15.1	80.0	2090	38
55.0	DCF6W55KS*-F	58.64 (2.309)	58.0 (2.283)	101.0 (3.976)	2.50	53.9	40.0	15.1	80.0	2090	38
55.0	DCF6W55KL1-F	58.64 (2.309)	60.0 (2.362)	78.0 (3.071)	2.50	53.9	40.0	15.1	80.0	2090	38
60.0	DCF6W60KB*-F	61.24 (2.411)	68.0 (2.677)	77.0 (3.031)	2.30	55.5	41.2	15.6	77.0	2280	38
60.0	DCF6W60KS*-F	61.24 (2.411)	58.0 (2.283)	101.0 (3.976)	2.30	55.5	41.2	15.6	77.0	2280	38
60.0	DCF6W60KL1-F	61.24 (2.411)	60.0 (2.362)	78.0 (3.071)	2.30	55.5	41.2	15.6	77.0	2280	38
70.0	DCF6W70KB*-F	57.44 (2.261)	83.0 (3.320)	92.0 (3.622)	2.85	53.9	40.0	15.1	63.0	1960	28
70.0	DCF6W70KS*-F	57.44 (2.261)	73.0 (2.874)	116.0 (4.567)	2.85	53.9	40.0	15.1	63.0	1960	28
70.0	DCF6W70KL1-F	57.44 (2.261)	75.0 (2.953)	93.0 (3.661)	2.85	53.9	40.0	15.1	63.0	1960	28
80.0	DCF6W80KB*-F	60.3 (2.374)	83.0 (3.320)	92.0 (3.622)	2.67	57.5	42.7	16.1	59.0	2240	28
80.0	DCF6W80KS*-F	60.3 (2.374)	73.0 (2.874)	116.0 (4.567)	2.67	57.5	42.7	16.1	59.0	2240	28
80.0	DCF6W80KL1-F	60.3 (2.374)	75.0 (2.953)	93.0 (3.661)	2.67	57.5	42.7	16.1	59.0	2240	28
90.0	DCF6W90KB*-F	57.5 (2.264)	96.0 (3.840)	105.0 (4.134)	3.07	55.2	41.0	15.5	51.0	2520	28
90.0	DCF6W90KS*-F	57.5 (2.264)	86.0 (3.386)	129.0 (5.079)	3.07	55.2	41.0	15.5	51.0	2520	28
90.0	DCF6W90KL1-F	57.5 (2.264)	88.0 (3.465)	106.0 (4.173)	3.07	55.2	41.0	15.5	51.0	2520	28
100.0	DCF6W100KB*-F	60.7 (2.390)	96.0 (3.840)	105.0 (4.134)	2.90	60.0	43.6	16.5	48.0	2300	23
100.0	DCF6W100KS*-F	60.7 (2.390)	86.0 (3.386)	129.0 (5.079)	2.90	60.0	43.6	16.5	48.0	2300	23
100.0	DCF6W100KL1-F	60.7 (2.390)	88.0 (3.465)	106.0 (4.173)	2.90	60.0	43.6	16.5	48.0	2300	23

\* Replace with 6 for M6 inserts or studs

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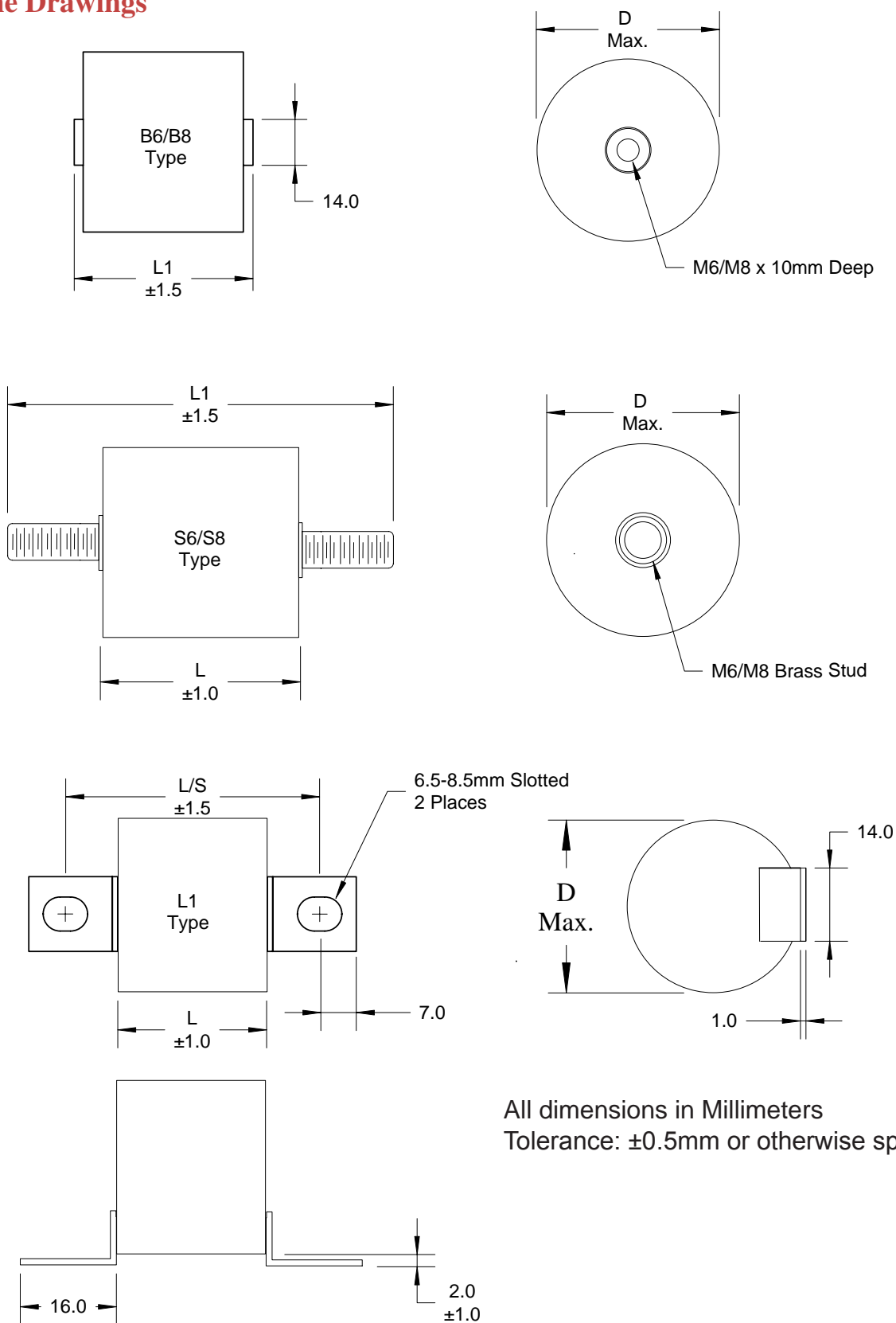
ESR measured at Resonant Frequency for capacitance values above 15  $\mu$ F or 6 m $\Omega$  Max. at 20 kHz

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### Outline Drawings

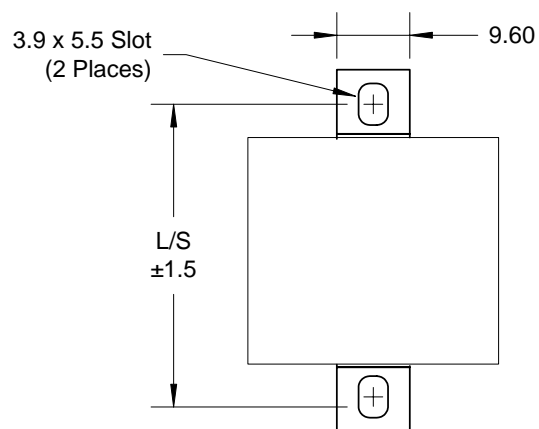
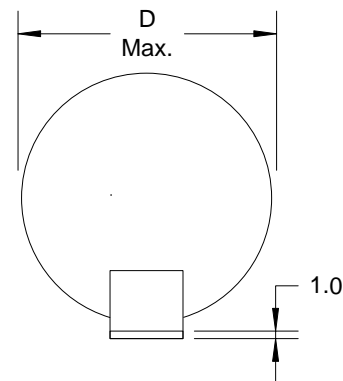
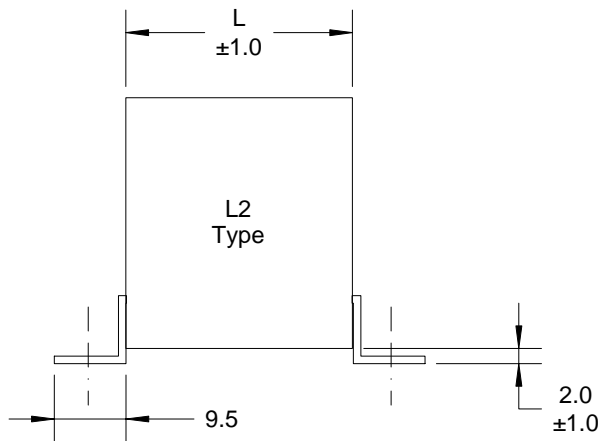
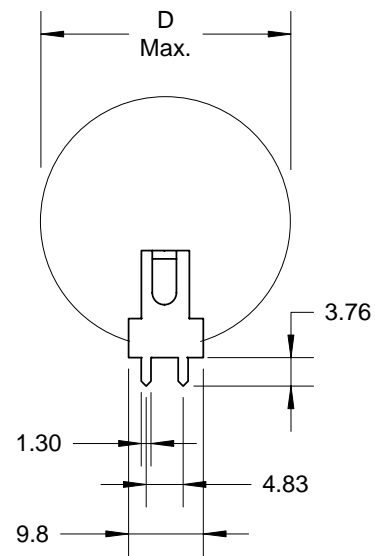
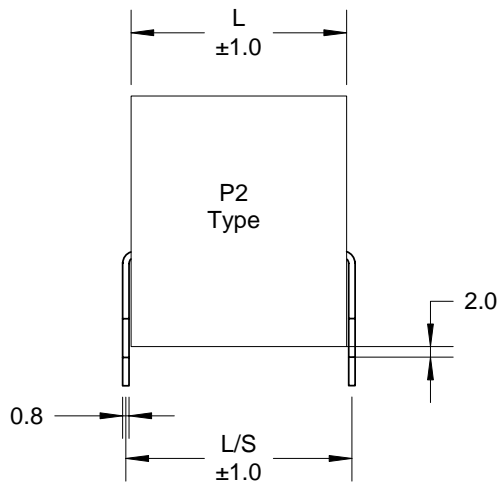


All dimensions in Millimeters  
Tolerance:  $\pm 0.5$ mm or otherwise specified

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All dimensions in Millimeters  
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### Part Numbering System

<b>DCF</b>	<b>6</b>	<b>W</b>	<b>22</b>	<b>K</b>	<b>B/S/P/L</b>	<b>-F</b>
Type	Voltage Code	Capacitance Decimal Point	Capacitance Significant Figures in $\mu\text{F}$	Tolerance Code	Terminal Style	RoHS Compliance Indicator
	<b>6 = 630 Vdc</b>	<b>D = 0.00</b> <b>S = 0.0</b> <b>P = 0.</b> <b>W = Whole No.</b>		<b>J = <math>\pm 5\%</math></b> <b>K = 10%</b>	<b>B6 = M6 Insert</b> <b>B8 = M8 Insert</b> <b>S6 = M6 studs</b> <b>S8 = M8 studs</b> <b>P2 = 2 Pins Lug</b> <b>L1 = type 1 Lug</b> <b>L2 = type 2 Lug</b>	