Type DCF, Polypropylene Capacitors for High Current Filtering

Large Capacitance Values, High Current Ratings for DC Filtering



Type DCF metallized polypropylene capacitors are designed for high current DC filtering and DC link applications. Low ESR and high capacitance, combined with a wide selection of robust terminals, allow this series to handle high ripple current.

Highlights

- High capacitance
- Low ESR
- Robust terminal/mounting options
- High current
- Self healing

Specifications

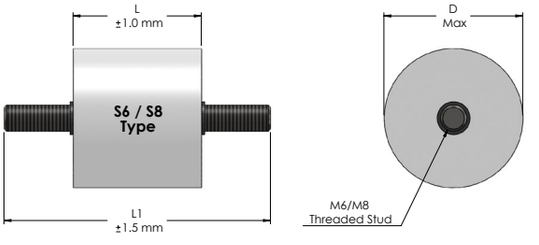
Capacitance Range	5.0 to 100 µF
Capacitance Tolerance	±10% (K) standard, ±5% (J) optional
Rated Voltage	630 Vdc (250 Vac, 50/60 Hz)
Operating Temperature Range with Ripple	–55 ºC to 105 ºC Full rated voltage @ 85 ºC, derate linearly to 50% rated voltage at 105 ºC
Maximum rms Current	Check tables for values
Insulation Resistance	30,000 µΩ x µF after 120 s and 500 V charge
Test Voltage between Terminals @ 25 ºC	800 Vdc for 60 s
Test Voltage between Terminals & Case @ 2 5ºC	3 kVac @ 50/60 Hz for 60 s
Life Test	2000 h @ 85 °C , 125% rated DC voltage
Life Expectancy	60,000 h @ rated Vdc, 70 ºC 30,000 h @ rated Vac, 70 ºC
Regulatory Information	

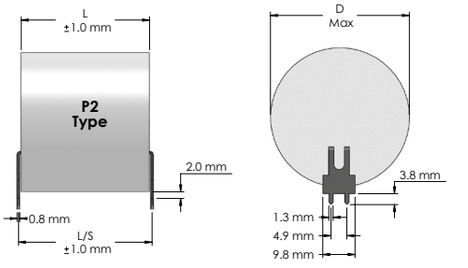
Dimensions

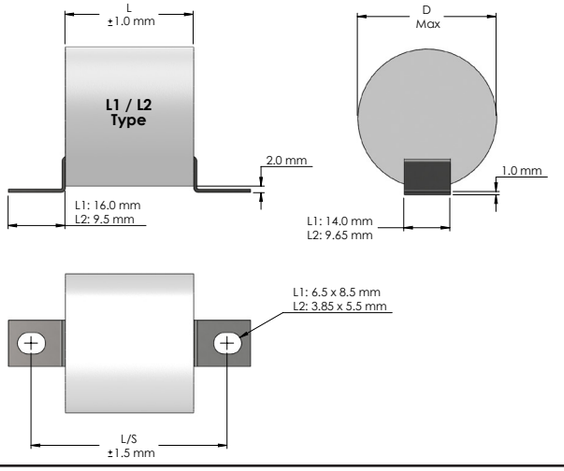
Construction Diagram

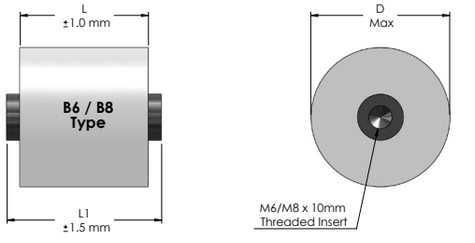


Construction Details	
Case Material	UL510 Polyester Tape Wrap
Resin Material	UL94V-0 Epoxy Fill
Terminal Material	Tin Plated Copper or Brass









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Part Numbering System

DCF	6	W	22	K	B/S/P/L	–F
Type	**Voltage Code**	**Capacitance Decimal Point**	**Capacitance Significant figures in µF**	**Tolerance Code**	**Terminal Style**	**RoHS** Compliance Indicator
	6 = 630 Vdc	**W** = No decimal point		**K =** ±10% **J** = ±5%	**B6** = M6 Insert **B8** = M8 Insert **S6** = M6 studs **S8** = M8 studs **P2** = 2 pins Lug **L1** = type 1 Lug **L2** = type 2 Lug	

Ratings

NOTE: Other ratings, sizes and performance specifications are available. Contact us.

Cap (µF)	Catalog Part Number	D Max. mm	L ± 1.0 mm	L1/LS ±1.5 mm Or As Specified mm	ESR Typical (mΩ)	Ripple Current @ 25 kHz 25°C (Amps rms)	55°C (Amps rms)	85°C (Amps rms)	Reson. Freq. (kHz)	Peak Current (Ipeak)	dv/dt (V/µs)
630 Vdc (250 Vac, 50/60 Hz)											
5.0	DCF6W5KP2-F	33.4	29.0	29.8 ±1.0	3.42	25.0	18.7	7.0	410.0	660	132
5.0	DCF6W5KL2-F	33.4	30.0	40.0	3.42	25.0	18.7	7.0	410.0	660	132
10.0	DCF6W10KP2-F	34.8	39.0	38.8 ±1.0	3.00	25.0	23.0	8.5	248.0	760	76
10.0	DCF6W10KL2-F	34.8	41.0	49.0	3.00	31.0	23.0	8.7	248.0	760	76
15.0	DCF6W15KB*-F	42.2	49.0	57.0	2.40	38.7	28.7	10.8	203.0	1140	76
15.0	DCF6W15KS*-F	42.2	39.0	81.0	2.40	38.7	28.7	10.8	203.0	1140	76
15.0	DCF6W15KL1-F	42.2	41.0	58.0	2.40	38.7	28.7	10.8	203.0	1140	76
20.0	DCF6W20KB*-F	41.3	57.5	66.5	2.23	42.3	31.4	11.8	152.0	1040	52
20.0	DCF6W20KS*-F	41.3	47.5	90.5	2.23	42.3	31.4	11.8	152.0	1040	52
20.0	DCF6W20KL1-F	41.3	49.5	67.5	2.23	42.3	31.4	11.8	152.0	1040	52
25.0	DCF6W25KB*-F	46.0	57.5	66.5	2.30	44.7	33.0	12.6	136.0	1300	52
25.0	DCF6W25KS*-F	46.0	47.5	90.5	2.30	44.7	33.0	12.6	136.0	1300	52
25.0	DCF6W25KL1-F	46.0	49.5	67.5	2.30	44.7	33.0	12.6	136.0	1300	52
30.0	DCF6W30KB*-F	50.3	57.5	66.5	2.63	44.4	33.0	12.5	124.0	1560	52
30.0	DCF6W30KS*-F	50.3	47.5	90.5	2.63	44.4	33.0	12.5	124.0	1560	52
30.0	DCF6W30KL1-F	50.3	49.5	67.5	2.63	44.4	33.0	12.5	124.0	1560	52
35.0	DCF6W35KB*-F	54.2	57.5	66.5	2.43	48.5	36.0	13.6	115.0	1820	52
35.0	DCF6W35KS*-F	54.2	47.5	90.5	2.43	48.5	36.0	13.6	115.0	1820	52
35.0	DCF6W35KL1-F	54.2	49.5	67.5	2.43	48.5	36.0	13.6	115.0	1820	52
40.0	DCF6W40KB*-F	57.7	57.5	66.5	2.30	52.1	38.7	14.6	108.0	2080	52
40.0	DCF6W40KS*-F	57.7	47.5	90.5	2.30	52.1	38.7	14.6	108.0	2080	52
40.0	DCF6W40KL1-F	57.7	49.5	67.5	2.30	52.1	38.7	14.6	108.0	2080	52
45.0	DCF6W45KB*-F	53.3	68.0	77.0	2.20	53.9	40.9	15.6	90.0	1710	38

* 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 µF or 6 mΩ Max. at 20 kHz

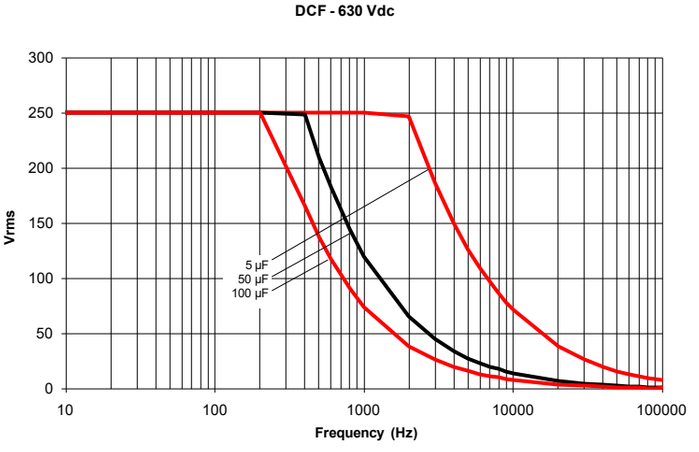
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Cap (µF)	Catalog Part Number	D Max. mm	L ± 1.0 mm	L1/LS ±1.5 mm Or As Specified mm	ESR Typical (mΩ)	Ripple Current @ 25 kHz (Amps rms) 25°C	55°C	85°C	Reson. Freq. (kHz)	Peak Current (Ipeak)	dv/dt (V/µs)
				630 Vdc (250 Vac, 50/60 Hz)							
45.0	DCF6W45KS*-F	53.3	58.0	101.0	2.20	53.9	40.9	15.6	90.0	1710	38
45.0	DCF6W45KL1-F	53.3	60.0	78.0	2.20	53.9	40.9	15.6	90.0	1710	38
50.0	DCF6W50KB*-F	56.1	68.0	77.0	2.60	51.3	38.1	14.4	85.0	1900	38
50.0	DCF6W50KS*-F	56.1	58.0	101.0	2.60	51.3	38.1	14.4	85.0	1900	38
50.0	DCF6W50KL1-F	56.1	60.0	78.0	2.60	51.3	38.1	14.4	85.0	1900	38
55.0	DCF6W55KB*-F	58.6	68.0	77.0	2.50	53.9	40.0	15.1	80.0	2090	38
55.0	DCF6W55KS*-F	58.6	58.0	101.0	2.50	53.9	40.0	15.1	80.0	2090	38
55.0	DCF6W55KL1-F	58.6	60.0	78.0	2.50	53.9	40.0	15.1	80.0	2090	38
60.0	DCF6W60KB*-F	61.2	68.0	77.0	2.30	55.5	41.2	15.6	77.0	2280	38
60.0	DCF6W60KS*-F	61.2	58.0	101.0	2.30	55.5	41.2	15.6	77.0	2280	38
60.0	DCF6W60KL1-F	61.2	60.0	78.0	2.30	55.5	41.2	15.6	77.0	2280	38
70.0	DCF6W70KB*-F	57.4	83.0	92.0	2.85	53.9	40.0	15.1	63.0	1960	28
70.0	DCF6W70KS*-F	57.4	73.0	116.0	2.85	53.9	40.0	15.1	63.0	1960	28
70.0	DCF6W70KL1-F	57.4	75.0	93.0	2.85	53.9	40.0	15.1	63.0	1960	28
80.0	DCF6W80KB*-F	60.3	83.0	92.0	2.67	57.5	42.7	16.1	59.0	2240	28
80.0	DCF6W80KS*-F	60.3	73.0	116.0	2.67	57.5	42.7	16.1	59.0	2240	28
80.0	DCF6W80KL1-F	60.3	75.0	93.0	2.67	57.5	42.7	16.1	59.0	2240	28
90.0	DCF6W90KB*-F	57.5	96.0	105.0	3.07	55.2	41.0	15.5	51.0	2520	28
90.0	DCF6W90KS*-F	57.5	86.0	129.0	3.07	55.2	41.0	15.5	51.0	2520	28
90.0	DCF6W90KL1-F	57.5	88.0	106.0	3.07	55.2	41.0	15.5	51.0	2520	28
100.0	DCF6W100KB*-F	60.7	96.0	105.0	2.90	60.0	43.6	16.5	48.0	2300	23
100.0	DCF6W100KS*-F	60.7	86.0	129.0	2.90	60.0	43.6	16.5	48.0	2300	23
100.0	DCF6W100KL1-F	60.7	88.0	106.0	2.90	60.0	43.6	16.5	48.0	2300	23

* 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 µF or 6 mΩ Max. at 20 kHz
Note: Additional voltage and capacitance values are available upon request.

RMS Voltage vs Frequency @ 25 °C



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