

## 1.2.3 Pulse Current Capacitors / DC Filter Capacitors DCF-03 and DCF-04 series

- medium Frequency range and higher RMS Current
- for 20 - 100kHz frequency

### Applications :

For Switching Power Supply input filtering, DC blocking and output filter, welding equipment, DC Filtering application, MMC Capacitors module / Multi-Miniature Capacitors module

### Constructions :

Supporting different Capacitor Configuration, electrical connections and mounting options so as to increase your design flexibility

### Properties :

Medium Frequency range and RMS Current Capacity; very Low Losses and Low Inductance, High Insulation Resistance; both AC and DC voltage; Flame Retardant Construction; Easy Installation

### Electrical Connections :

Large Terminals - to deliver larger discharge current  $I_{pp}$  and  $I_{r.m.s.}$  when compare with traditional copper tin wires

### Electrical Characteristics :

**DCF-03QI / DCF-03QL / DCF-03QT** – higher RMS current

Rated Voltage : 100 - 400Vdc / 70 - 250Vac

RMS Current up to 30A

**DCF-04QI / DCF-04QL / DCF-04QT** – smaller size & higher voltage range

Rated Voltage : 250 - 700Vdc / 160 - 400Vac

RMS Current up to 13A

**Capacitance range :** 1uF - 30uF

**Capacitance Tolerance :** +/-5%; +/-10%

**Equivalent Series Resistance (ESR) :** measured at 25C 100kHz

**Dissipation factor (DF) :** <0.1% 1KHz) at 23C

**Testing Voltage :** 2 x  $U_n$  60sec 25C (can be customized design)

**Insulation Resistance :** Terminal – Terminal : 300,000M ohm 500Vdc 60sec  
Terminal – Case : 5000M ohm 500Vdc 60sec

**Operate Temperature :** -25C - +70C / -25C - +85C / -25C - +105C

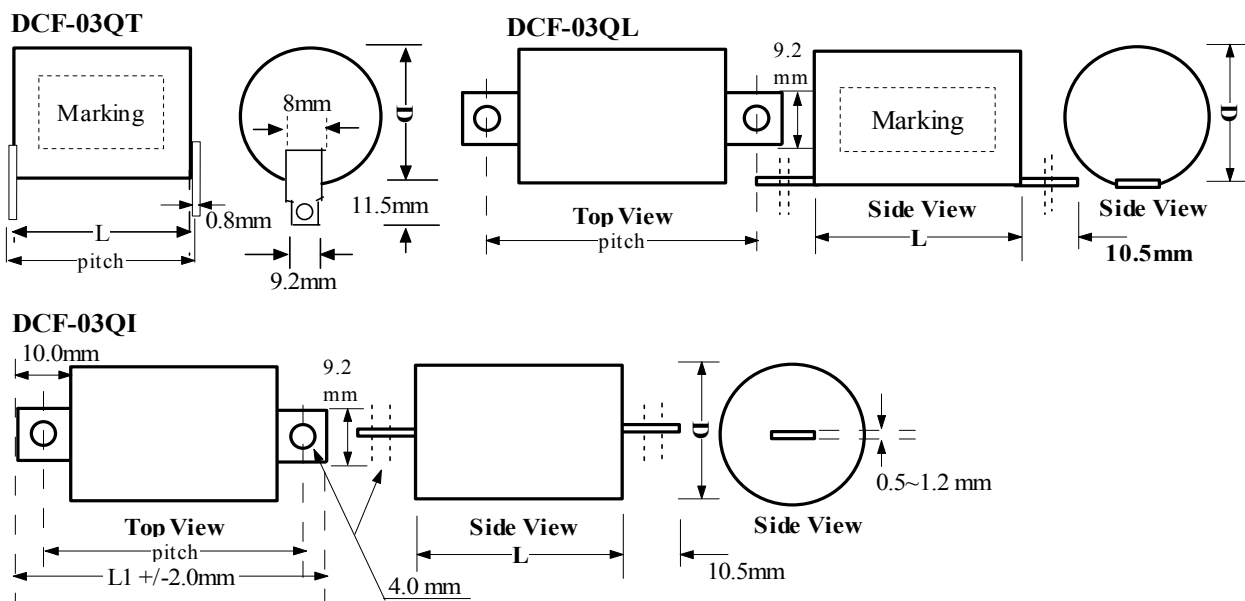
Full rated voltage at 85C, derate linearly to 50% rated voltage at 105C.

**Pulse Voltage rise & fall time  $dv/dt$  :** detail information available on request

### Options :

**Thermocouple** can be build-in :

- capacitor internal temperature can be measured
- output temperature signal can be used as one of reference signals in the circuit and trigger other function



Dimension Tolerance : +/-1mm unless specify

## Pulse Current Capacitors / DC Filter Capacitors DCF-03QI series

### Specifications and Size : 100Vdc / 75Vac

Capacitance uF	Diameter D mm	Capacitor Length L mm	Total Length L1 mm	I rms A							Peak Pulse Current A	Max. dv/dt V/us	Max. ESR @ 100KHz mohm 90C
				+25C	+45C	+55C	+65C	+75C	+85C	+90C			
1.0 uF	15	31	50	11	9.9	8.9	8.0	6.5	5.2	4.4	22	22	15
2.0 uF	18	33	52	12.5	11.3	10.1	9	7.2	6.4	5.5	38	19	12
2.2 uF	20	33	52	13	11.7	10.5	9.3	7.4	6.6	5.6	41	19	12
3.0 uF	21	38	57	13.5	12.2	10.9	9.8	8.8	7.7	6.5	45	15	11
3.3 uF	22.5	38	57	14	12.4	11.2	10.2	9.0	7.9	6.7	49.5	15	11
5.0 uF	25.5	38	57	15.5	13.1	11.8	10.6	9.6	8.6	7.5	75	15	10
10.0 uF	26.5	42	61	18	15.3	13.7	12.3	11.2	10.0	8.5	100	10	9
20.0 uF	33	52	71	23	19.5	17.5	15.8	14.2	12.8	11	140	7	8
30.0 uF	39	52	71	25	21.2	19.1	17.2	15.4	13.9	12.2	210	7	6

### Specifications and Size : 200Vdc / 140Vac

Capacitance uF	Diameter D mm	Capacitor Length L mm	Total Length L1 mm	I rms A							Peak Pulse Current A	Max. dv/dt V/us	Max. ESR @ 100KHz mohm 90C
				+25C	+45C	+55C	+65C	+75C	+85C	+90C			
1.0 uF	18	33	52	8	8	8	8	8	6.8	5.4	15	15	20
2.0 uF	21.5	38	57	14.5	12.3	11	9.9	9	8.1	7.2	22	11	15
2.2 uF	22.5	38	57	15	12.7	11.5	10.3	9.2	8.3	7.3	24.2	11	15
3.0 uF	26	38	57	16	13.6	12.2	11	9.9	8.9	7.5	33	11	13
3.3 uF	27	38	57	16.5	14.8	13.3	12	10.8	9.6	7.7	36.3	11	13
5.0 uF	33	38	57	19	16.2	14.5	13	11	10	8.5	55	11	11
10.0 uF	37.5	50	69	22.5	19	17	15.5	13.9	12.5	10.6	100	10	9
20.0 uF	44.5	65	86	28	23.8	21	18.9	16	14.5	13	140	7	6

### Specifications and Size : 400Vdc / 270Vac

Capacitance uF	Diameter D mm	Capacitor Length L mm	Total Length L1 mm	I rms A							Peak Pulse Current A	Max. dv/dt V/us	Max. ESR @ 100KHz mohm 90C
				+25C	+45C	+55C	+65C	+75C	+85C	+90C			
1.0 uF	19.5	38	57	9.5	9.5	9.5	9.5	8.3	7.5	6.7	20	20	18
2.0 uF	22	50	69	15	15	15	14.2	12.4	10.5	8.5	32	16	15
2.2 uF	22.5	50	69	15.5	15.5	15.5	14.7	12.9	11	9.0	35	16	15
3.0 uF	26	50	69	21	17.8	16	15.2	13.7	11.6	9.6	48	16	11
3.3 uF	27	50	69	21.5	18	16.4	15	13.8	12.4	9.8	52	16	11
5.0 uF	28	65	86	24.4	20.7	18.6	16.7	15	13.5	11.5	55	11	8
10.0 uF	40	65	86	30	25.5	22.9	20.5	18.5	16.6	14.5	110	11	6

For other Capacitance, Voltage, r.m.s. Current and Peak Pulse Current not listed, please contact us for details.

## Pulse Current Capacitors / DC Filter Capacitors DCF-04QI series

### Specifications and Size : 250Vdc / 160Vac

Capacitance uF	Diameter D mm	Capacitor Length L mm	Total Length L1 mm	Max. ESR @ 100KHz mohm	Max. dv/dt V/us	Peak Current A	Irms 70C 100kHz A
1	11.5	22	43	2.4	99	99	5.4
1.5	10.5	34	55	4.9	55	82.5	7.1
2.2	11.5	34	55	3.3	55	121	9.1
2.5	12.5	34	55	3	55	138	9.1
3	14	34	55	2.6	55	165	9.1
5	17.5	34	55	1.9	55	275	9.7
6.8	20.5	34	55	1.6	55	374	9.7
10	20.5	45	66	1.9	33	330	9.7
15	25	45	66	1.4	33	495	13.2
20	28.5	45	66	1.3	33	660	13.2
25	32	45	66	1.3	33	825	13.2
30	30	58	79	2.3	22	660	13.2

### Specifications and Size : 400Vdc / 250Vac

Capacitance uF	Diameter D mm	Capacitor Length L mm	Total Length L1 mm	Max. ESR @ 100KHz mohm	Max. dv/dt V/us	Peak Current A	Irms 70C 100kHz A
0.68	10.5	34	55	6.7	77	53	6.1
1	12.5	34	55	4.6	77	77	8.1
1.5	15	34	55	3.2	77	116	9.1
2	17	34	55	2.6	77	154	9.7
2.2	18	34	55	2.5	77	169	9.7
2.5	19	34	55	2.3	77	193	9.7
3	20.5	34	55	2.1	77	231	9.7
4	20	45	66	2.7	55	220	9.7
4.7	21.5	45	66	2.4	55	259	10.8
5	22	45	66	2.3	55	275	10.8
6.8	25.5	45	66	1.9	55	374	13.2
10	30.5	45	66	1.6	55	550	13.2
15	32.5	58	77	2.8	33	495	13.2

### Specifications and Size : 600Vdc / 330Vac

Capacitance uF	Diameter D mm	Capacitor Length L mm	Total Length L1 mm	Max. ESR @ 100KHz mohm	Max. dv/dt V/us	Peak Current A	Irms 70C 100kHz A
1	16	34	55	3.8	110	110	9.7
2	19	45	66	3.7	83	166	9.7
2.2	20	45	66	3.5	83	183	9.7
3	23	45	66	2.8	83	249	10.8
4.7	28	45	66	2.1	83	390	13.2
5	29	45	66	2	83	415	13.2
6.8	29	58	79	4.1	55	374	13.2
10	35	58	79	3.2	55	550	13.2

### Specifications and Size : 700Vdc / 400Vac

Capacitance uF	Diameter D mm	Capacitor Length L mm	Total Length L1 mm	Max. ESR @ 100KHz mohm	Max. dv/dt V/us	Peak Current A	Irms 70C 100kHz A
0.68	17.5	34	55	4.1	138	94	9.7
1	21	34	55	3.1	138	138	10.8
1.5	21	45	66	3.8	99	149	10.8
2	24	45	66	3	99	198	13.2
2.2	25	45	66	2.8	99	218	13.2
3	29	45	66	2.3	99	297	13.2
4	33.5	45	66	2	99	396	13.2
4.7	30	58	79	4.7	66	310	13.2
5	31	58	79	4.4	66	330	13.2