

Metallized Polypropylene (PP) Capacitors for DC-Link Applications

Special Features

- Very high volume/capacitance ratio
- Self-healing
- Particularly reliable contact-configurations: 4-lead versions and screwable plate connections
- Very low dissipation factor
- Negative capacitance change versus temperature
- Very low dielectric absorption
- According to RoHS 2002/95/EC

Typical Applications

As intermediate circuit capacitor e.g. in high power converter technology

Construction

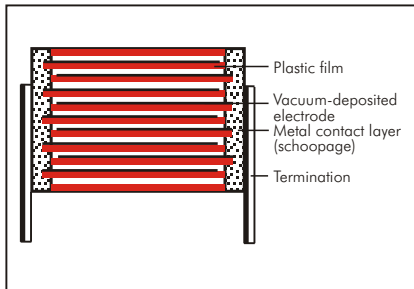
Dielectric:

Polypropylene (PP) film

Capacitor electrodes:

Vacuum-deposited

Internal construction:



Encapsulation:

Solvent-resistant, flame-retardant plastic case with epoxy resin seal, UL 94 V-0

Terminations:

Tinned wire or plates

Marking:

Colour: Red. Marking: Black.

Epoxy resin seal: Red

Electrical Data

Capacitance range:

5 μ F to 75 μ F

Rated voltages:

450 VDC, 700 VDC, 900 VDC, 1100 VDC

Capacitance tolerances:

$\pm 20\%$, $\pm 10\%$, $\pm 5\%$

Operating temperature range:

-40° C to +85° C

Insulation resistance at +20° C:

$\geq 30\ 000$ sec ($M\Omega \times \mu$ F)

(mean value: 100 000 sec)

Measuring voltage: 100 V/1 min.

Dissipation factors at +20° C:

$\tan \delta \leq 10 \times 10^{-4}$ at 1 kHz

Maximum pulse rise time:

Capacitance μ F	max. pulse rise time V/ μ sec at $T_A < 40^\circ$ C			
	450 VDC	700 VDC	900 VDC	1100 VDC
5 ... 16	-	14	16	21
20 ... 30	13	14	16	16
35 ... 45	13	12	12	16
50 ... 60	11	12	12	-
75	11	11	-	-

for pulses equal to the rated voltage

Test voltage: 1.2 U_r , 2sec.

Dielectric absorption: 0.05 %

Reliability:

Operational life > 200 000 hours

Failure rate < 2 fit ($0.5 \times U_r$ and 40° C)

Specific dissipation:

Box size W x H x L in mm	Specific dissipation in Watts per K above the ambient temperature
20x39.5x41.5	0.065
24x45.5x41.5	0.080
31x46x41.5	0.092
33x48x56	0.122
37x54x56	0.142

Mounting Recommendation

Excessive mechanical strain, e.g. pressure or shock onto the capacitor body, is to be avoided during mounting and usage of the capacitors. When fixing the plates the screw torque is to be limited to max. 5 Nm.

Packing

Transportation-safe packing in cardboard boxes.

For further details and graphs please refer to Technical Informations.

Continuation

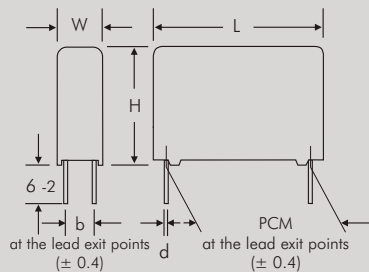
General Data

Capacitance	450 VDC				700 VDC				900 VDC				1100 VDC			
	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**
5 μ F																
8 "													20	39.5	41.5	37.5
													20	39.5	41.5	37.5
10 μ F									20	39.5	41.5	37.5	20	39.5	41.5	37.5
12 "									20	39.5	41.5	37.5	24	45.5	41.5	37.5
14 "									20	39.5	41.5	37.5	24	45.5	41.5	37.5
15 "					20	39.5	41.5	37.5	20	39.5	41.5	37.5	31	46	41.5	37.5
16 "					20	39.5	41.5	37.5	20	39.5	41.5	37.5	31	46	41.5	37.5
20 "	20	39.5	41.5	37.5	20	39.5	41.5	37.5	24	45.5	41.5	37.5	33	48	56	48.5
22 "	20	39.5	41.5	37.5	20	39.5	41.5	37.5	24	45.5	41.5	37.5	33	48	56	48.5
25 "	20	39.5	41.5	37.5	24	45.5	41.5	37.5	31	46	41.5	37.5	33	48	56	48.5
30 "	24	45.5	41.5	37.5	24	45.5	41.5	37.5	31	46	41.5	37.5	37	54	56	48.5
35 "	24	45.5	41.5	37.5	31	46	41.5	37.5	33	48	56	48.5	37	54	56	48.5
40 "	31	46	41.5	37.5	31	46	41.5	37.5	33	48	56	48.5				
45 "	31	46	41.5	37.5	33	48	56	48.5	33	48	56	48.5				
50 "	33	48	56	48.5	33	48	56	48.5	37	54	56	48.5				
55 "	33	48	56	48.5	33	48	56	48.5								
60 "	33	48	56	48.5	37	54	56	48.5								
75 "	37	54	56	48.5	37	54	56	48.5								

** PCM = Printed circuit module = lead spacing of the 4-lead version

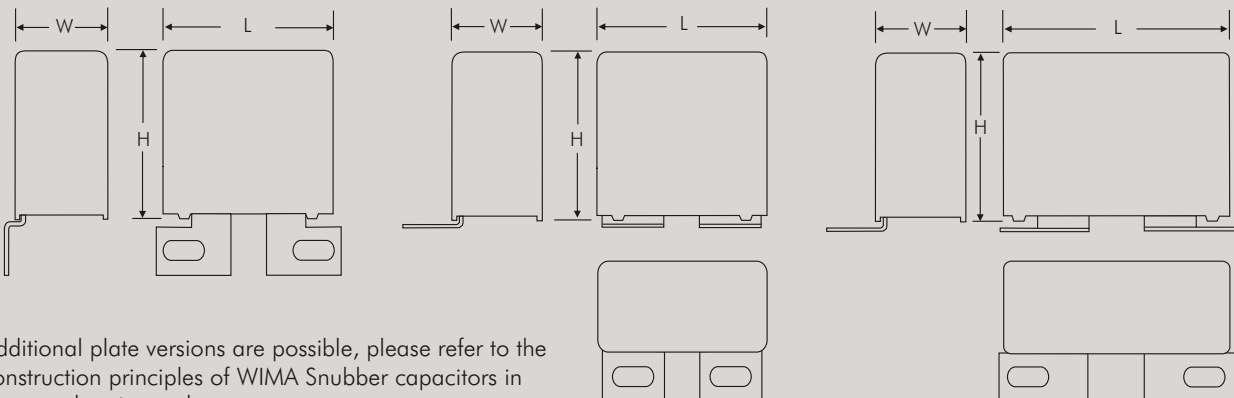
Dims in mm

4-lead version



W	H	L	PCM	b	d
20	39.5	41.5	37.5	12.5	1
24	45.5	41.5	37.5	12.5	1
31	46	41.5	37.5	20	1
33	48	56	48.5	20	1
37	54	56	48.5	20	1

Plate versions (examples)



Additional plate versions are possible, please refer to the construction principles of WIMA Snubber capacitors in the actual main catalogue.

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