

## Metallized Polyester (PET) Capacitors in PCM 5 mm

### Special Features

- High volume/capacitance ratio
- Self-healing
- According to RoHS 2002/95/EC

### Typical Applications

For general DC-applications e.g.

- By-pass
- Blocking
- Coupling and decoupling
- Timing

### Construction

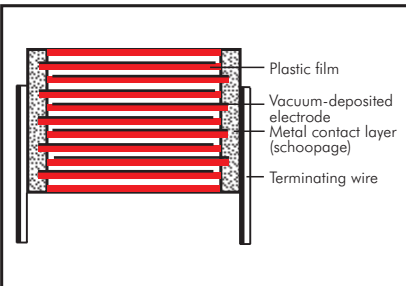
#### Dielectric:

Polyethylene-terephthalate (PET) film

#### Capacitor electrodes:

Vacuum-deposited

#### Internal construction:



#### Encapsulation:

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

#### Terminations:

Tinned wire.

#### Marking:

Colour: Red. Marking: Silver/White.  
Epoxy resin seal: Red

### Electrical Data

#### Capacitance range:

1000 pF to 10 μF (E12-values on request)

#### Rated voltages:

16 VDC, 50 VDC, 63 VDC, 100 VDC,  
250 VDC, 400 VDC, 630 VDC

#### Capacitance tolerances:

±20%, ±10%, ±5%

#### Operating temperature range:

-55° C to +100° C

#### Climatic test category:

55/100/21 in accordance with IEC

#### Insulation resistance at +20° C:

U <sub>r</sub>	U <sub>test</sub>	C ≤ 0.33 μF	0.33 μF < C ≤ 10 μF
16 VDC	10V	≥ 3.75 x 10 <sup>3</sup> MΩ (mean value: 1 x 10 <sup>4</sup> MΩ)	≥ 1000 sec (MΩ x μF) (mean value: 3000 sec)
50 VDC	10V	≥ 5 x 10 <sup>3</sup> MΩ (mean value: 3 x 10 <sup>4</sup> MΩ)	≥ 1000 sec (MΩ x μF) (mean value: 3000 sec)
63 VDC	50V	≥ 1 x 10 <sup>4</sup> MΩ (mean value: 5 x 10 <sup>4</sup> MΩ)	≥ 1250 sec (MΩ x μF) (mean value: 3000 sec)
≥ 100 VDC	100V	≥ 1.5 x 10 <sup>4</sup> MΩ (mean value: 1 x 10 <sup>5</sup> MΩ)	≥ 3000 sec (MΩ x μF) (mean value: 6000 sec)

Measuring time: 1 min.

#### Dissipation factors at + 20° C: tan δ

at f	C ≤ 0.1 μF	0.1 μF < C ≤ 1.0 μF	C > 1.0 μF
1 kHz	≤ 8 x 10 <sup>-3</sup>	≤ 8 x 10 <sup>-3</sup>	≤ 10 x 10 <sup>-3</sup>
10 kHz	≤ 15 x 10 <sup>-3</sup>	≤ 15 x 10 <sup>-3</sup>	-
100 kHz	≤ 30 x 10 <sup>-3</sup>	-	-

#### Maximum pulse rise time:

Capacitance pF/μF	Pulse rise time V/μsec max. operation/test						
	16VDC	50VDC	63VDC	100VDC	250VDC	400VDC	630VDC
1000 ... 6800	-	40/400	40/400	40/400	50/500	80/800	110/1100
0.01 ... 0.022	-	25/250	35/350	35/350	50/500	80/800	110/1100
0.033 ... 0.068	-	15/150	20/200	25/250	50/500	80/800	-
0.1 ... 0.47	-	10/100	15/150	20/200	50/500	80/800	-
0.68 ... 1.0	-	8/80	12/120	15/150	-	-	-
1.5 ... 3.3	-	8/80	7,5/75	10/100	-	-	-
4.7	4/40	5/50	5/50	-	-	-	-
6.8 ... 10	3/30	3/30	-	-	-	-	-

for pulses equal to the rated voltage

### Mechanical Tests

#### Pull test on leads:

10 N in direction of leads according to IEC 60068-2-21

#### Vibration:

6 hours at 10 ... 2000 Hz and 0.75 mm displacement amplitude or 10 g in accordance with IEC 60068-2-6

#### Low air density:

1kPa = 10 mbar in accordance with IEC 60068-2-13

#### Bump test:

4000 bumps at 390 m/sec<sup>2</sup> in accordance with IEC 60068-2-29

### Packing

Available taped and reeled.

Detailed taping information and graphs at the end of the catalogue.

For further details and graphs please refer to Technical Information.

## Continuation

### General Data

Capacitance	16 VDC/10 VAC*				50 VDC/30 VAC*				63 VDC/40 VAC*				100 VDC/63 VAC*				250 VDC/160 VAC*				400 VDC/200 VAC*				630 VDC/220 VAC*							
	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**				
1000 pF					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5
1500 "					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5
2200 "					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5
3300 "					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	3	7.5	7.2	5
4700 "					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	3.5	8.5	7.2	5
6800 "					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	4.5	9.5	7.2	5
0.01 µF					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	5.5	11.5	7.2	5
0.015 "					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	7.2	13	7.2	5
0.022 "					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	3.5	8.5	7.2	5				
0.033 "					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	3.5	8.5	7.2	5	4.5	9.5	7.2	5								
0.047 "					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	3.5	8.5	7.2	5	4.5	9.5	7.2	5								
0.068 "					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	3.5	8.5	7.2	5	5.5	11.5	7.2	5								
0.1 µF					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	4.5	9.5	7.2	5	7.2	13	7.2	5								
0.15 "					2.5	5.5	7.2	5	2.5	6.5	7.2	5	2.5	6.5	7.2	5	5	10	7.2	5	8.5	14	7.2	5								
0.22 "					2.5	6.5	7.2	5	2.5	6.5	7.2	5	3.5	8.5	7.2	5	5.5	11.5	7.2	5												
0.33 "					2.5	6.5	7.2	5	3.5	8.5	7.2	5	4.5	9.5	7.2	5	7.2	13	7.2	5												
0.47 "					2.5	6.5	7.2	5	3.5	8.5	7.2	5	4.5	9.5	7.2	5																
0.68 "					3.5	8.5	7.2	5	4.5	9.5	7.2	5	5	10	7.2	5																
1.0 µF					3.5	8.5	7.2	5	5	10	7.2	5	7.2	13	7.2	5																
1.5 "					4.5	9.5	7.2	5	5.5	11.5	7.2	5	8.5	14	7.2	5																
2.2 "					5	10	7.2	5	7.2	13	7.2	5																				
3.3 "					5.5	11.5	7.2	5	7.2	13	7.2	5																				
4.7 "	5.5	11.5	7.2	5	7.2	13	7.2	5	8.5	14	7.2	5																				
6.8 "	7.2	13	7.2	5	8.5	14	7.2	5																								
10 µF	8.5	14	7.2	5																												

\* AC voltage:  $f = 50 \text{ Hz}$ ;  $1.4 \times U_{\text{rms}} + \text{UDC} \leq U_r$

\*\* PCM = Printed circuit module = lead spacing

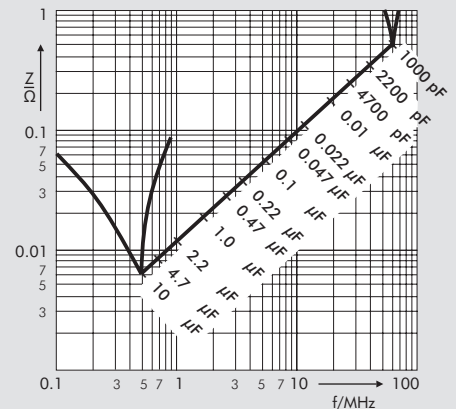
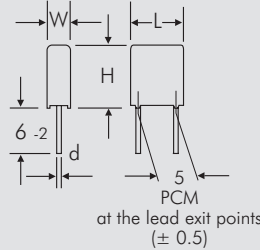
New values and box sizes.

Dims. in mm.

Taped version see page 100.

$d = 0.5$

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Impedance change with frequency (general guide).

Permissible AC voltage in relation to frequency at 10° C internal temperature rise (general guide).

