WIMA MKI 2 NEW

Metallized Polyphenylene-Sulphide (PPS) Capacitors in PCM 5 mm

Special Features

- Operating temperature up to 140° C
- Self-healing
- Low dissipation factor
- Low dielectric absorption
- Very constant capacitance value versus temperature
- According to RoHS 2002/95/EC

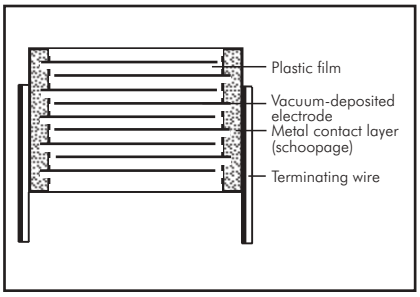
Typical Applications

For general applications in high temperature circuits e.g.

- By-pass
- Blocking
- Coupling and decoupling
- Timing
- Filtering
- Oscillating circuits

Construction

Dielectric:
Polyphenylene-sulphide (PPS) 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: White.
Epoxy resin seal: Red

Electrical Data

Capacitance range:
0.01 µF to 1.0 µF (E12-values on request)
Rated voltages:
63 VDC, 100 VDC, 250 VDC, 400 VDC
Capacitance tolerances:
– 20%, – 10% (–5% available subject to special enquiry)
Operating temperature range:
–55+ C to +140+ C
Climatic test category:
55/140/56 in accordance with IEC
Insulation resistance at +20+ C:

U_r	U_{test}	C ⩽ 0.33 µF	0.33 µF < C ⩽ 1.0 µF
63 VDC	50 V	⩾ 1 x 10^4 MΩ (mean value: 5 x 10^4 MΩ)	⩾ 3000 sec (MΩ x µF) (mean value: 6 000 sec)
⩾100 VDC	100 V	⩾ 1 x 10^4 MΩ (mean value: 5 x 10^4 MΩ)	–

Measuring time: 1 min.
Dissipation factors at + 20) C: tan δ

at f	C ⩽ 0.1 µF	0.1 µF < C ⩽ 1.0 µF
1 kHz	⩽ 15 x 10^{-4}	⩽ 20 x 10^{-4}
10 kHz	⩽ 20 x 10^{-4}	⩽ 25 x 10^{-4}
100 kHz	⩽ 50 x 10^{-4}	–

Maximum pulse rise time:

Capacitance µF	Pulse rise time V/µsec max. operation/test			
	63 VDC	100 VDC	250 VDC	400 VDC
0.01 ... 0.022	35/350	35/350	50/500	60/600
0.033 ... 0.068	20/200	20/200	40/400	50/500
0.1 ... 0.47	15/150	15/150	40/400	–
0.68 ... 1.0	12/120	12/120	–	–

for pulses equal to the rated voltage

Test voltage: 1.6 U_r, 2 sec.
Voltage derating:
A voltage derating factor of 0.75 % per K must be applied from +125+ C for DC voltages and from +110+ C for AC voltages.
Reliability:
Operational life > 300 000 hours
Failure rate < 2 fit (0.5 x U_r and 40) C)

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^2 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.

09.06

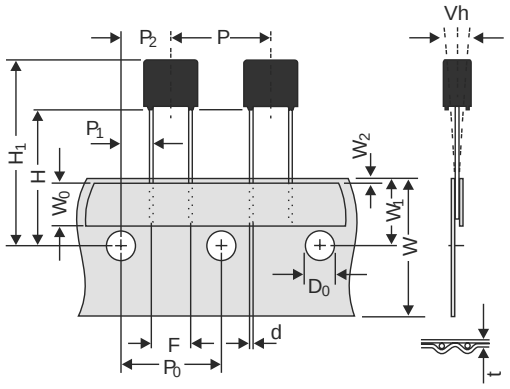


Diagram 1:
PCM 2.5/5/7.5mm

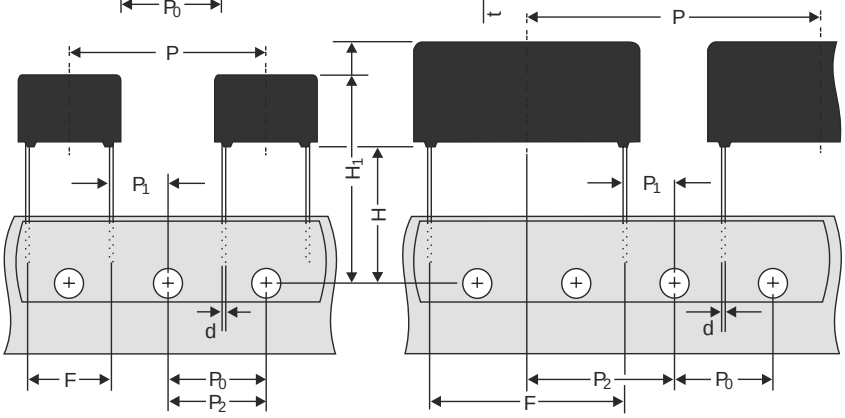


Diagram 2: PCM 10/15 mm

Diagram 3: PCM 22.5 and 27.5*mm
*PCM 27.5 taping possible with two feed holes between components

Designation	Symbol	Dimensions for Radial Taping PCM 2.5 taping	PCM 5 taping	PCM 7.5 taping	PCM 10 taping	PCM 15 taping	PCM 22.5 taping	PCM 27.5 taping
Carrier tape width	W	18.0 p 0.5	18.0 p 0.5	18.0 p 0.5	18.0 p 0.5	18.0 p 0.5	18.0 p 0.5	18.0 p 0.5
Hold-down tape width	W_0	6.0 for hot-sealing adhesive tape	6.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape	12.0 for hot-sealing adhesive tape
Hole position	W_1	9.0 p 0.5	9.0 p 0.5	9.0 p 0.5	9.0 p 0.5	9.0 p 0.5	9.0 p 0.5	9.0 p 0.5
Hold-down tape position	W_2	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.	0.5 to 3.0 max.
Feed hole diameter	D_0	4.0 p 0.2	4.0 p 0.2	4.0 p 0.2	4.0 p 0.2	4.0 p 0.2	4.0 p 0.2	4.0 p 0.2
Pitch of component	P	12.7 p 1.0	12.7 p 1.0	12.7 p 1.0	25.4 p 1.0	25.4 p 1.0	38.1 p 1.5	*38.1 p 1.5 or 50.8 p 1.5
Feed hole pitch	P_0	12.7 p 0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 p 0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 p 0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 p 0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 p 0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 p 0.3 cumulative pitch error max. 1.0 mm/20 pitch	12.7 p 0.3 cumulative pitch error max. 1.0 mm/20 pitch
Feed hole centre to lead	P_1	5.1 p 0.5	3.85 p 0.7	2.6 p 0.7	7.7 p 0.7	5.2 p 0.7	7.8 p 0.7	5.3 p 0.7
Hole centre to component centre	P_2	6.35 p 1.3	6.35 p 1.3	6.35 p 1.3	12.7 p 1.3	12.7 p 1.3	19.05 p 1.3	19.05 p 1.3
Feed hole centre to bottom edge of the component	H_v	16.5 p 0.3 18.5 p 0.5	16.5 p 0.3 18.5 p 0.5	16.5 p 0.5 18.5 p 0.5	16.5 p 0.5 18.5 p 0.5	16.5 p 0.5 18.5 p 0.5	16.5 p 0.5 18.5 p 0.5	16.5 p 0.5 18.5 p 0.5
Feed hole centre to top edge of the component	H_1	$H+H_{component} \leq H_1$ 32.25 max.	$H+H_{component} \leq H_1$ 32.25 max.	$H+H_{component} \leq H_1$ 24.5 to 31.5	$H+H_{component} \leq H_1$ 25.0 to 31.5	$H+H_{component} \leq H_1$ 26.0 to 37.0	$H+H_{component} \leq H_1$ 30.0 to 43.0	$H+H_{component} \leq H_1$ 35.0 to 45.0
Lead spacing at upper edge of carrier tape	F	2.5 p 0.5	5.0 +0.8 ...0.2	7.5 p 0.8	10.0 p 0.8	15 p 0.8	22.5 p 0.8	27.5 p 0.8
Lead diameter	d	0.4 p 0.05	0.5 p 0.05	[CE] 0.5 p 0.05 or 0.6 +0.06 ...0.05	[CE] 0.5 p 0.05 or 0.6 +0.06 ...0.05	0.8 +0,08 ...0.05	0.8 +0,08 ...0.05	0.8 +0.08 ...0.05
Component alignment	Dh	p 2.0 max.	p 2.0 max.	p 3.0 max.	p 3.0 max.	p 3.0 max.	p 3.0 max.	p 3.0 max.
Total tape thickness	t	0.7 p 0.2	0.7 p 0.2	0.7 p 0.2	0.7 p 0.2	0.7 p 0.2	0.7 p 0.2	0.7 p 0.2
Package (see also page 105)	[V]	ROLL/AMMO		AMMO				
		REEL P 360 max. P 30 p 1 B 52 p 2 / 58 p 2 } depending on comp. dimensions		REEL P 360 max. P 30 p 1 B 52 p 2 / 58 p 2 or 66 p 2 REEL P 500 max. P 25 p 1 B 54 p 2 / 60 p 2 / 68 p 2 } depending on PCM and component dimensions				
Unit		see details page 107.						

[V] Please give ŒH• dimensions and desired packaging type when ordering.

[CE] Diameter of leads see General Data.

PCM 10 and PM 15 can be crimped to PCM 7.5.
Position of components according to PCM 7.5 (skew ±1.7) or 15.0 is possible

Dims in mm.

Please clarify customer-specific deviations with the manufactur

90.60