

Polypropylene (PP) Capacitors for Pulse Applications with Double-Sided Metallized Electrodes and Schoopage Contacts PCM 7.5 mm to 37.5 mm

Special Features

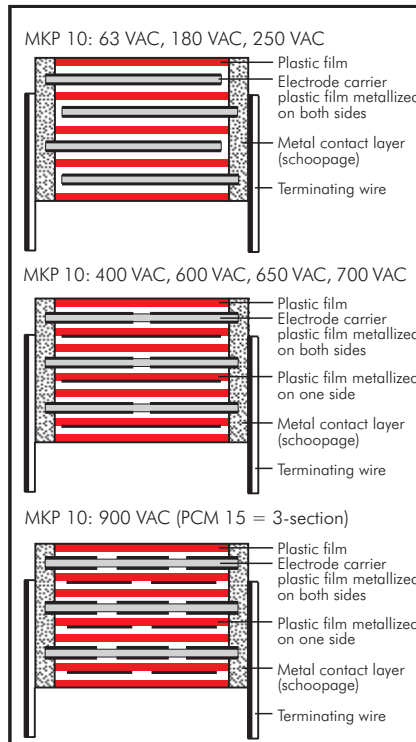
- Pulse duty construction
- Self-healing
- Very low dissipation factor
- Negative capacitance change versus temperature
- According to RoHS 2002/95/EC

Typical Applications

- For pulse applications e.g.
- Switch mode power supplies
 - TV and monitor sets
 - Lighting
 - Audio/video equipment

Construction

Dielectric: Polypropylene (PP) film
Capacitor electrodes: Double-sided metallized plastic film
Internal construction:



Encapsulation:

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

Terminations: Tinned wire.

Marking: Colour: Red.

Marking: Black. Epoxy resin seal: Red

Electrical Data

Capacitance range:

1000 pF to 15 µF (E12-values on request)

Rated voltages:

100 VDC, 250 VDC, 400 VDC, 630 VDC, 1000 VDC, 1600 VDC, 2000 VDC, 2500 VDC

Capacitance tolerances:

±20%, ±10%, ±5%

Operating temperature range:

-55° C to +100° C

Climatic test category:

55/100/56 in accordance with IEC

Insulation resistance at +20° C:

$C \leq 0.33 \mu\text{F}: \geq 1 \times 10^5 \text{ M}\Omega$

(mean value: $5 \times 10^5 \text{ M}\Omega$)

$C > 0.33 \mu\text{F}: \geq 30\,000 \text{ sec (M}\Omega \times \mu\text{F)}$

(mean value: 100 000 sec)

Measuring voltage: 100 V/1 min.

Dissipation factors at +20° C: $\tan \delta$

at f	$C \leq 0.1 \mu\text{F}$	$0.1 \mu\text{F} < C \leq 1.0 \mu\text{F}$	$C > 1.0 \mu\text{F}$
1 kHz	$\leq 3 \times 10^{-4}$	$\leq 3 \times 10^{-4}$	$\leq 3 \times 10^{-4}$
10 kHz	$\leq 4 \times 10^{-4}$	$\leq 6 \times 10^{-4}$	-
100 kHz	$\leq 15 \times 10^{-4}$	-	-

Test voltage: $1.6 U_r, 2 \text{ sec.}$

Dielectric absorption:

0.05%

Voltage derating:

A voltage derating factor of 1.35 % per K must be applied from +85° C for DC voltages and from +75° C for AC voltages.

Reliability:

Operating life > 300 000 hours

Failure rate < 1 fit ($0.5 \times U_r$ and 40° C)

Maximum pulse rise time:

Capacitance pF/µF	max. pulse rise time V/µsec at $T_A < 40^\circ \text{C}$							
	100 VDC	250 VDC	400 VDC	630 VDC	1000 VDC	1600 VDC	2000 VDC	2500 VDC
1000 ... 2200	1000	1800	1800	1800	2800	5400	9000	11000
3300 ... 6800	900	1200	1200	1200	2800	5400	9000	11000
0.01 ... 0.022	700	1100	1200	1800	2100	3000	3400	11000
0.033 ... 0.068	400	800	900	1800	2100	2100	2100	-
0.1 ... 0.22	200	500	500	900	1400	1400	1400	-
0.33 ... 0.68	100	300	400	700	900	900	900	-
1.0 ... 2.2	70	200	200	400	400	500	-	-
3.3 ... 4.7	50	80	100	150	-	-	-	-
6.8 ... 15	35	50	70	-	-	-	-	-

for pulses equal to the rated voltage

Mechanical Tests

Pull test on leads:

$d \leq 0.8 \phi$: 10 N in direction of leads

$d > 0.8 \phi$: 20 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/sec²

in accordance with IEC 60068-2-29

Packing

Available taped and reeled up to and including case size 15 x 26 x 31.5 / PCM 27.5 mm.

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

For further details and graphs please refer to Technical Information.