

Polypropylene (PP) Film and Foil Capacitors for Pulse Applications in PCM 5 mm

Special Features

- Pulse duty construction
- Close tolerances up to $\pm 2.5\%$ ($\pm 1\%$ on request)
- Very low dissipation factor
- Negative capacitance change versus temperature
- Very low dielectric absorption
- According to RoHS 2002/95/EC

Typical Applications

For high frequency applications e.g.

- Sample and hold
- Timing
- LC-Filtering
- Oscillating circuits
- Audio equipment

Construction

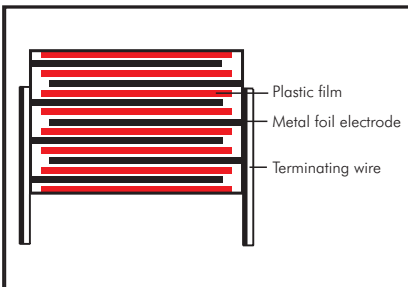
Dielectric:

Polypropylene (PP) film

Capacitor electrodes:

Metal foil

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: Yellow

Electrical Data

Capacitance range:

33 pF to 0.033 μ F (E12-values on request)

Rated voltages:

63 VDC, 100 VDC, 250 VDC, 400 VDC,
630 VDC, 800 VDC, 1000 VDC

Capacitance tolerances:

$\pm 10\%$, $\pm 5\%$, $\pm 2.5\%$ ($\pm 1\%$ available subject to special enquiry)

Operating temperature range:

-55°C to $+100^\circ\text{C}$

Test specifications:

In accordance with IEC 60384-13 and EN 131 800

Climatic test category:

55/100/56 in accordance with IEC

Insulation resistance at $+20^\circ\text{C}$:

$\geq 5 \times 10^5 \text{ M}\Omega$

(mean value: $1 \times 10^6 \text{ M}\Omega$)

Measuring voltage:

$U_r = 63 \text{ V}$; $U_{\text{test}} = 50 \text{ V/1 min.}$

$U_r \geq 100 \text{ V}$; $U_{\text{test}} = 100 \text{ V/1 min.}$

Dissipation factors at $+20^\circ\text{C}$: $\tan \delta$

at f	$C \leq 1000 \text{ pF}$	$1000 \text{ pF} < C \leq 4700 \text{ pF}$	$C > 4700 \text{ pF}$
1 kHz	$\leq 3 \times 10^{-4}$	$\leq 4 \times 10^{-4}$	$\leq 4 \times 10^{-4}$
10 kHz	$\leq 3 \times 10^{-4}$	$\leq 4 \times 10^{-4}$	$\leq 4 \times 10^{-4}$
100 kHz	$\leq 4 \times 10^{-4}$	$\leq 5 \times 10^{-4}$	-
1 MHz	$\leq 10 \times 10^{-4}$	-	-

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

Test voltage: $2 U_r$, 2 sec.

Maximum pulse rise time:

1000 V/ μ sec for pulses equal to the rated voltage

Dielectric absorption:

0.05%

Temperature coefficient:

$-200 \times 10^{-6}/^\circ\text{C}$ (typical)

Voltage derating:

A voltage derating factor of 1.35 % per K must be applied from $+85^\circ\text{C}$ for DC voltages and from $+75^\circ\text{C}$ for AC voltages

Reliability:

Operating life > 300 000 hours

Failure rate < 5 fit ($0.5 \times U_r$ and 40°C)

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.