

Polypropylene Film Capacitor

Related Document: IEC 60384-13

MAIN APPLICATIONS:

Oscillator, timing and LC/RC filter circuits, high frequency coupling of fast digital and analog IC's.

MARKING:

Manufacturer's logo/type/C-value/rated voltage/tolerance/date of manufacture

DIELECTRIC:

Polypropylene film

ELECTRODES:

Metal foil

COATING:

Flame retardant plastic case (UL-class 94 V-0), color blue, epoxy resin sealed

CONSTRUCTION:

Extended foil (refer to general information)

LEADS:

Tinned wire

IEC TEST CLASSIFICATION:

55/100/56, according to IEC 60068

OPERATING TEMPERATURE RANGE:

- 55°C to + 100°C

CAPACITANCE RANGE:

100pF to 0.033μF

CAPACITANCE TOLERANCES:

± 10% (K), ± 5% (J), ± 2.5% (H), ± 1% (F)

RATED VOLTAGES (U_R):

63 VDC, 250 VDC, 630 VDC

PERMISSIBLE AC VOLTAGES (RMS) UP TO 60Hz:

40 VAC, 160 VAC, 250 VAC

TEST VOLTAGE (ELECTRODE/ELECTRODE):

2 x U_R for 2 sec.

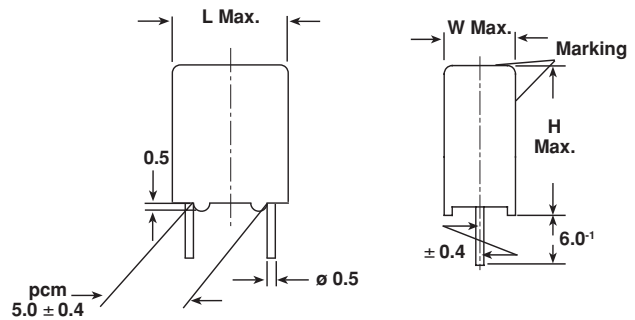
PULSE RISE TIME:

$d_v/d_t = 1000 \text{ V}/\mu\text{s}$

DISSIPATION FACTOR TAN δ

| MEASURED AT | C ≤ 1000pF | C > 1000pF |
|----------------|------------------------|------------------------|
| 1kHz | 0.3 x 10 ⁻³ | 0.4 x 10 ⁻³ |
| 10kHz | 0.3 x 10 ⁻³ | 0.4 x 10 ⁻³ |
| 100kHz | 0.4 x 10 ⁻³ | 0.8 x 10 ⁻³ |
| 1 MHz | 1 x 10 ⁻³ | — |
| Maximum values | | |

Dimensions in millimeters


INSULATION RESISTANCE:

Measured at 100 VDC (63 VDC series measured at 50 VDC) after one minute
500,000 MΩ minimum value (1000 GΩ typical value)

TEMPERATURE COEFFICIENT:

- 200 x 10⁻⁶/°C (typical value)

CAPACITANCE DRIFT:

Up to + 40°C, ± 0.3% for a period of two years

DERATING FOR DC AND AC CATEGORY VOLTAGE U_C:

At + 85°C: U_C = 1.0 U_R
At + 100°C: U_C = 0.7 U_R

SELF INDUCTANCE:

~ 6 nH measured with 2mm long leads

PULL TEST ON LEADS:

≥ 30 N in direction of leads according to IEC 60068-2-21

DIELECTRIC ABSORPTION:

0.05% (typical value) according to IEC 60384-1

RELIABILITY:

Operational life > 300,000 h
Failure rate < 1 FIT (0.5 x U_R and 40°C)

For further details, please refer to the general information provided in this catalog.

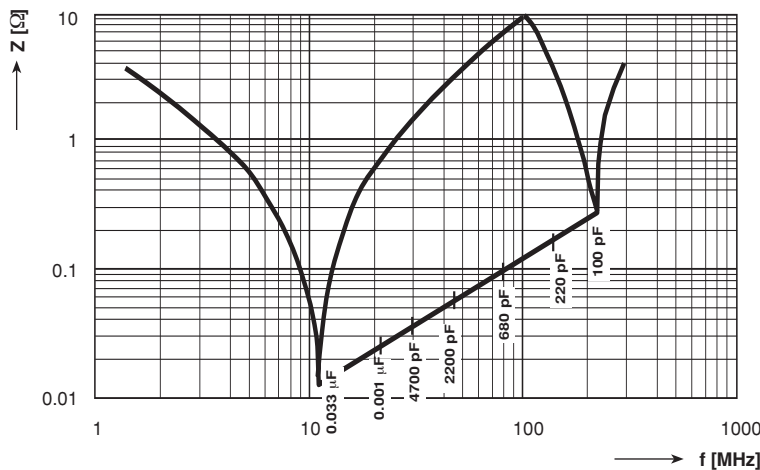
| CAPACITANCE | CAPACITANCE CODE | VOLTAGE CODE 06 63 VDC/40 VAC | | | VOLTAGE CODE 25 250 VDC/160 VAC | | | VOLTAGE CODE 63 630 VDC/250 VAC | | |
|-------------|------------------|----------------------------------|------|-----|------------------------------------|------|-----|------------------------------------|------|-----|
| | | W | H | L | W | H | L | W | H | L |
| 100 pF | - 110 | — | — | — | — | — | — | 4.5 | 6.0 | 7.2 |
| 150 pF | - 115 | — | — | — | — | — | — | 4.5 | 6.0 | 7.2 |
| 220 pF | - 122 | — | — | — | — | — | — | 4.5 | 6.0 | 7.2 |
| 330 pF | - 133 | — | — | — | — | — | — | 4.5 | 6.0 | 7.2 |
| 470 pF | - 147 | — | — | — | — | — | — | 4.5 | 6.0 | 7.2 |
| 680 pF | - 168 | — | — | — | — | — | — | 4.5 | 6.0 | 7.2 |
| 1000 pF | - 210 | — | — | — | — | — | — | 4.5 | 6.0 | 7.2 |
| 1500 pF | - 215 | — | — | — | — | — | — | 4.5 | 6.0 | 7.2 |
| 2200 pF | - 222 | — | — | — | 4.5 | 6.0 | 7.2 | 5.5 | 7.0 | 7.2 |
| 3300 pF | - 233 | 4.5 | 6.0 | 7.2 | 5.5 | 7.0 | 7.2 | 5.5 | 7.0 | 7.2 |
| 4700 pF | - 247 | 4.5 | 6.0 | 7.2 | 5.5 | 7.0 | 7.2 | 7.5 | 9.0 | 7.2 |
| 6800 pF | - 268 | 4.5 | 6.0 | 7.2 | 7.5 | 9.0 | 7.2 | 7.5 | 9.0 | 7.2 |
| 0.01 µF | - 310 | 5.5 | 7.0 | 7.2 | 7.5 | 9.0 | 7.2 | 9.0 | 10.0 | 7.2 |
| 0.015 µF | - 315 | 5.5 | 7.0 | 7.2 | 9.0 | 10.0 | 7.2 | — | — | — |
| 0.022 µF | - 322 | 7.5 | 9.0 | 7.2 | — | — | — | — | — | — |
| 0.033 µF | - 333 | 9.0 | 10.0 | 7.2 | — | — | — | — | — | — |

Further C-values upon request.

RECOMMENDED PACKAGING

| LETTER CODE | TYPE OF PACKAGING | HEIGHT (H) (mm) | REEL DIAMETER (mm) | ORDERING CODE EXAMPLE | PCM 5 |
|-------------|-------------------|-----------------|--------------------|-----------------------|-------|
| D | AMMO | 16.5 | S* | KP 1830-310-065-D | X |
| G | AMMO | 18.5 | S* | KP 1830-310-065-G | X |
| F | REEL | 16.5 | 350 | KP 1830-310-065-F | X |
| W | REEL | 18.5 | 350 | KP 1830-310-065-W | X |
| — | BULK | — | — | KP 1830-310-065 | X |

*S = box size 55 x 210 x 340mm (W x H x L)



Impedance versus Frequency $Z = f(f)$ (Lead length 2.0mm)