

Polycarbonate Film Capacitor Related Document: IEC 60 384-12

MAIN APPLICATIONS:

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

MARKING:

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

DIELECTRIC:

Polycarbonate film

ELECTRODES:

Metal foil

COATING:

Flame retardant plastic case (UL-class 94 V-0), red, 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:

220pF to 10,000pF

CAPACITANCE TOLERANCES:

± 20% (M), ± 10% (K), ± 5% (J)

RATED VOLTAGES (U_R):

63 VDC, 100 VDC, 160 VDC

PERMISSIBLE AC VOLTAGES (RMS) UP TO 60Hz:

40 VAC, 63 VAC, 100 VAC

TEST VOLTAGE (ELECTRODE/ELECTRODE):

2 x U_R for 2 s

PULSE RISE TIME:

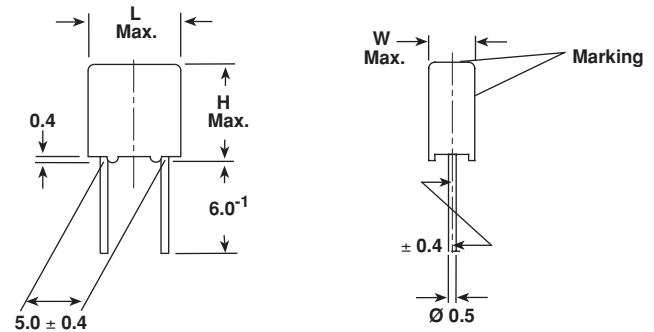
$d_v/d_t = 1000 \text{ V}/\mu\text{s}$

DISSIPATION FACTOR TAN δ

| MEASURED AT | $C \leq 0.1 \mu\text{F}$ |
|-------------|--------------------------|
| 1kHz | 2×10^{-3} |
| 10kHz | 4×10^{-3} |
| 100kHz | 8×10^{-3} |
| | Maximum values |

*Please note: these capacitors are not recommended for new designs.

Dimensions in millimeters



INSULATION RESISTANCE:

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

CAPACITANCE DRIFT:

Up to + 40°C, ± 0.5% 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: $U_C = 0.8 U_R$

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

RELIABILITY:

Operational life > 300,000 h

Failure rate < 1 FIT (40°C and $0.5 \times U_R$)

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

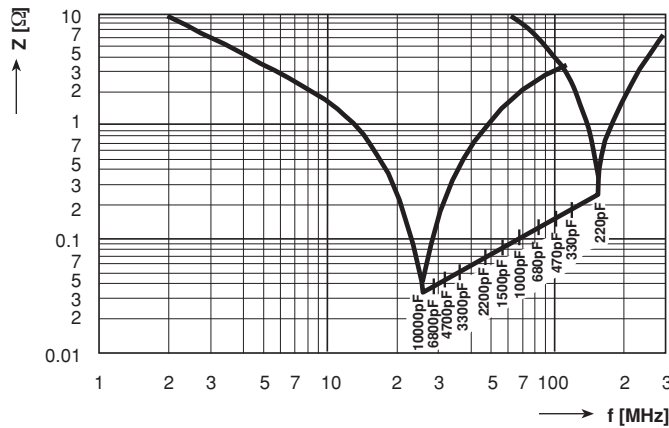
| CAPACITANCE | CAPACITANCE CODE | VOLTAGE CODE 06 63 VDC/ 40 VAC | | | VOLTAGE CODE 01 100 VDC/ 63 VAC | | | VOLTAGE CODE 16 160 VDC/ 100 VAC | | |
|-------------|------------------|--------------------------------------|-----|-----|---------------------------------------|-----|-----|--|-----|-----|
| | | W | H | L | W | H | L | W | H | L |
| 220 pF | - 122 | — | — | — | — | — | — | 2.5 | 6.5 | 7.2 |
| 330 pF | - 133 | — | — | — | — | — | — | 2.5 | 6.5 | 7.2 |
| 470 pF | - 147 | — | — | — | — | — | — | 2.5 | 6.5 | 7.2 |
| 680 pF | - 168 | — | — | — | — | — | — | 2.5 | 6.5 | 7.2 |
| 1000 pF | - 210 | — | — | — | — | — | — | 2.5 | 6.5 | 7.2 |
| 1500 pF | - 215 | — | — | — | 2.5 | 6.5 | 7.2 | 3.5 | 8.5 | 7.2 |
| 2200 pF | - 222 | — | — | — | 2.5 | 6.5 | 7.2 | 3.5 | 8.5 | 7.2 |
| 3300 pF | - 233 | 2.5 | 6.5 | 7.2 | — | — | — | — | — | — |
| 4700 pF | - 247 | 2.5 | 6.5 | 7.2 | — | — | — | — | — | — |
| 6800 pF | - 268 | 3.0 | 7.5 | 7.2 | — | — | — | — | — | — |
| 0.01 μF | - 310 | 3.5 | 8.5 | 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* | KC 1850-210/165-D | X |
| G | AMMO | 18.5 | S* | KC 1850-210/165-G | X |
| F | REEL | 16.5 | 350 | KC 1850-210/165-F | X |
| W | REEL | 18.5 | 350 | KC 1850-210/165-W | X |
| — | BULK | — | — | KC 1850-210/165 | X |

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



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

*Please note: these capacitors are not recommended for new designs.



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