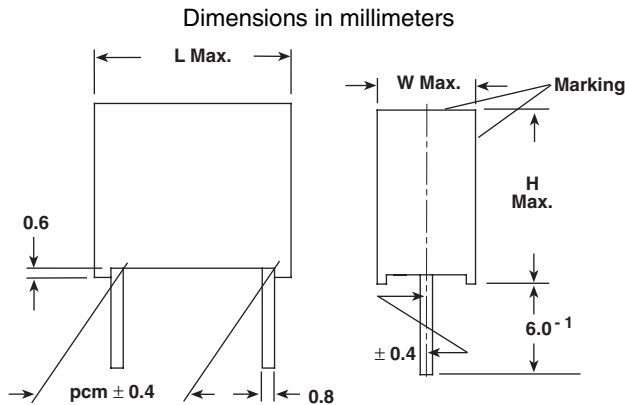


Metallized Polycarbonate Film Capacitor

Related Document: IEC 60384-6


MAIN APPLICATIONS

Storage, filter, timing and integrating circuits.

MARKING

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

DIELECTRIC

Polycarbonate film

ELECTRODES

Vacuum deposited aluminum

COATING

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

CONSTRUCTION

Extended metallized film (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 TOLERANCES

± 20% (M), ± 10% (K), ± 5% (J)

RATED VOLTAGES (U_R)

63 VDC, 100 VDC, 250 VDC, 400 VDC

MAXIMUM PULSE RISE TIME

| PCM (mm) | Maximum Pulse Rise Time d_v/d_t [V/ μ s] | | | |
|----------|--|---------|---------|---------|
| | 63 VDC | 100 VDC | 250 VDC | 400 VDC |
| 10 | 17 | 23 | 38 | 61 |
| 15 | 9 | 13 | 21 | 33 |
| 22.5 | 6 | 8 | 13 | 20 |
| 27.5 | 5 | 6 | 10 | 16 |

 If the maximum pulse voltage is less than the rated voltage higher d_v/d_t values can be permitted.

FEATURES

 Product is completely lead (Pb)-free.
 Product is RoHS compliant.

DERATING FOR DC AND AC. CATEGORY VOLTAGE U_C

 At + 85°C: $U_C = 1.0 U_R$
 At + 100°C: $U_C = 0.8 U_R$

CAPACITANCE RANGE

 0.01 μ F to 10 μ F

RoHS
 COMPLIANT

PERMISSIBLE AC VOLTAGES (RMS) UP TO 60HZ

40 VAC, 63 VAC, 160 VAC, 200 VAC

TEST VOLTAGE (ELECTRODE/ELECTRODE)

 1.6 x U_R for 2 s

INSULATION RESISTANCE

Measured at 100 VDC (63 VDC series measured at 50 VDC) after one minute

For $C \leq 0.33\mu$ F and $U_R > 100$ VDC:

 30,000 M Ω minimum value (100,000 M Ω typical value)

For $C \leq 0.33\mu$ F and $U_R \leq 100$ VDC:

 15,000 M Ω minimum value (50,000 M Ω typical value)

TIME CONSTANT

Measured at 100 VDC (63 VDC series measured at 50 VDC) after one minute

For $C > 0.33\mu$ F and $U_R > 100$ VDC:

10,000 s minimum value (40,000 s typical value)

For $C > 0.33\mu$ F and $U_R \leq 100$ VDC:

5000 s minimum value (15,000 s typical value)

CAPACITANCE DRIFT

Up to + 40°C, ± 1% for a period of two years

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

BEND TEST ON LEADS

2 bends through 90° with half of the force used in pull test

RELIABILITY

Operational life > 300,000 h

 Failure rate < 1 FIT (40°C and 0.5 x U_R)

 For further details, please refer to the general information available at www.vishay.com/doc?26033.



DISSIPATION FACTOR TAN δ

| MEASURED AT | $C \leq 0.1\mu\text{F}$ | $0.1\mu\text{F} < C \leq 1.0\mu\text{F}$ | $C > 1.0\mu\text{F}$ |
|----------------|-------------------------|--|----------------------|
| 1kHz | 3×10^{-3} | 3×10^{-3} | 3×10^{-3} |
| 10kHz | 4×10^{-3} | 4×10^{-3} | — |
| 100kHz | 10×10^{-3} | — | — |
| Maximum values | | | |

| CAPACITANCE | CAPACITANCE CODE | VOLTAGE CODE 06 63 VDC/40 VAC | | | | VOLTAGE CODE 01 100 VDC/63 VAC | | | | VOLTAGE CODE 25 250 VDC/160 VAC | | | | VOLTAGE CODE 40 400 VDC/200 VAC | | | |
|---------------------|------------------|----------------------------------|------|------|------|-----------------------------------|------|------|------|------------------------------------|------|------|------|------------------------------------|------|------|------|
| | | W | H | L | PCM | W | H | L | PCM | W | H | L | PCM | W | H | L | PCM |
| 0.01 μF | - 310 | — | — | — | — | — | — | — | — | — | — | — | — | 4.0 | 9.0 | 13.0 | 10 |
| 0.015 μF | - 315 | — | — | — | — | — | — | — | — | — | — | — | — | 4.0 | 9.0 | 13.0 | 10 |
| 0.022 μF | - 322 | — | — | — | — | — | — | — | — | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 |
| 0.033 μF | - 333 | — | — | — | — | — | — | — | — | 4.0 | 9.0 | 13.0 | 10 | 5.5 | 10.5 | 13.0 | 10 |
| 0.047 μF | - 347 | — | — | — | — | — | — | — | — | 4.0 | 9.0 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 |
| 0.068 μF | - 368 | — | — | — | — | 4.0 | 9.0 | 13.0 | 10 | 5.5 | 10.5 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 |
| 0.1 μF | - 410 | — | — | — | — | 4.0 | 9.0 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 | 6.5 | 12.5 | 18.0 | 15 |
| 0.15 μF | - 415 | — | — | — | — | 5.5 | 10.5 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 | 8.5 | 14.5 | 18.0 | 15 |
| 0.22 μF | - 422 | 4.0 | 9.0 | 13.0 | 10 | 6.5 | 11.5 | 13.0 | 10 | 6.5 | 12.5 | 18.0 | 15 | 7.5 | 15.5 | 26.5 | 22.5 |
| 0.33 μF | - 433 | 4.5 | 9.5 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 | 7.5 | 13.5 | 18.0 | 15 | 8.5 | 16.5 | 26.5 | 22.5 |
| 0.47 μF | - 447 | 5.5 | 10.5 | 13.0 | 10 | 6.5 | 12.5 | 18.0 | 15 | 7.5 | 15.5 | 26.5 | 22.5 | 10.5 | 18.5 | 26.5 | 22.5 |
| 0.68 μF | - 468 | 5.5 | 10.5 | 18.0 | 15 | 7.5 | 13.5 | 18.0 | 15 | 8.5 | 16.5 | 26.5 | 22.5 | 11.5 | 20.5 | 31.5 | 27.5 |
| 1.0 μF | - 510 | 6.5 | 12.5 | 18.0 | 15 | 8.5 | 14.5 | 18.0 | 15 | 8.5 | 16.5 | 26.5 | 22.5 | 13.5 | 23.5 | 31.5 | 27.5 |
| 1.5 μF | - 515 | 7.5 | 13.5 | 18.0 | 15 | 7.5 | 15.5 | 26.5 | 22.5 | 11.5 | 20.5 | 31.5 | 27.5 | — | — | — | — |
| 2.2 μF | - 522 | 8.5 | 14.5 | 18.0 | 15 | 8.5 | 16.5 | 26.5 | 22.5 | 11.5 | 20.5 | 31.5 | 27.5 | — | — | — | — |
| 3.3 μF | - 533 | 7.5 | 15.5 | 26.5 | 22.5 | 10.5 | 18.5 | 26.5 | 22.5 | 13.5 | 23.5 | 31.5 | 27.5 | — | — | — | — |
| 4.7 μF | - 547 | 8.5 | 16.5 | 26.5 | 22.5 | 11.5 | 20.5 | 31.5 | 27.5 | 16.5 | 29.5 | 31.5 | 27.5 | — | — | — | — |
| 6.8 μF | - 568 | 10.5 | 18.5 | 26.5 | 22.5 | 13.5 | 23.5 | 31.5 | 27.5 | — | — | — | — | — | — | — | — |
| 10.0 μF | - 610 | 11.5 | 20.5 | 31.5 | 27.5 | 15.0 | 24.5 | 31.5 | 27.5 | — | — | — | — | — | — | — | — |

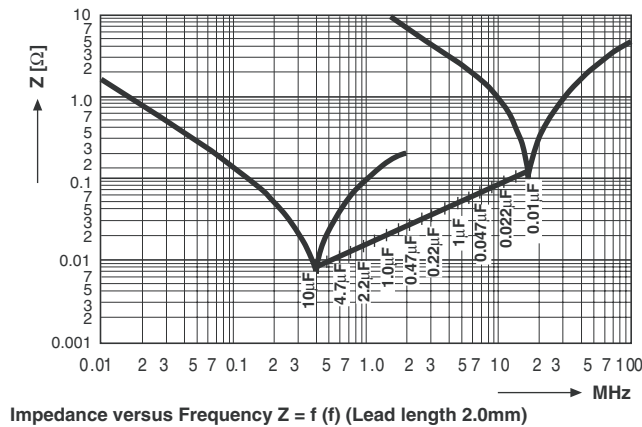
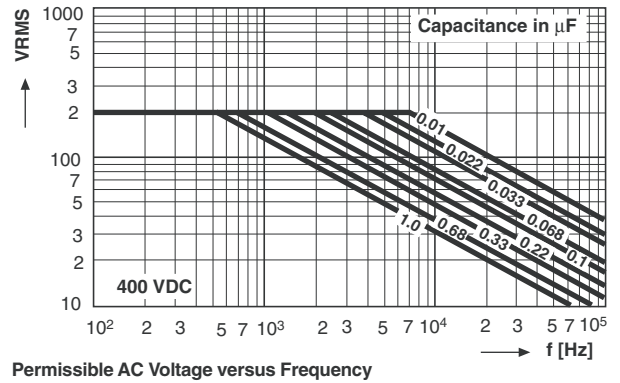
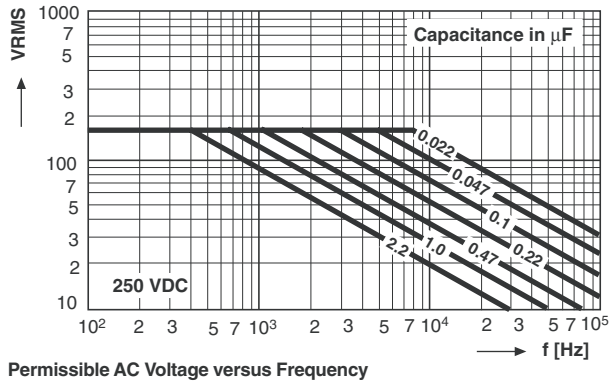
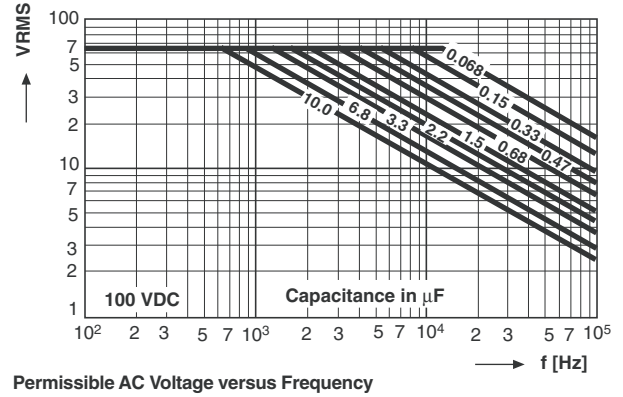
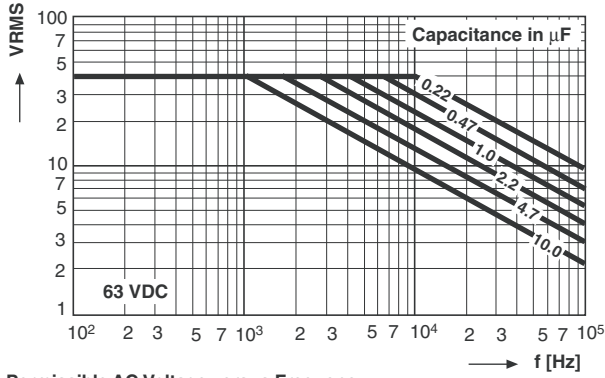
Further C-values upon request

RECOMMENDED PACKAGING

| LETTER CODE | TYPE OF PACKAGING | HEIGHT (H) (mm) | REEL DIAMETER (mm) | ORDERING CODE EXAMPLES | PCM 10 | PCM 15 | PCM 22.5 - 27.5 |
|-------------|-------------------|-----------------|--------------------|------------------------|--------|--------|-----------------|
| D | AMMO | 16.5 | S* | MKC 1862-310/405-D | X | X | — |
| G | AMMO | 18.5 | S* | MKC 1862-310/405-G | X | X | — |
| F | REEL | 16.5 | 350 | MKC 1862-310/405-F | X | X | — |
| W | REEL | 18.5 | 350 | MKC 1862-310/405-W | X | X | — |
| V | REEL | 18.5 | 500 | MKC 1862-522/255-V | — | X | X |
| G | AMMO | 18.5 | L* | MKC 1862-522/255-G | — | — | X |
| — | BULK | — | — | MKC 1862-522/255 | X | X | X |

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

*L - box size 60 x 360 x 510mm (W x H x L)





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