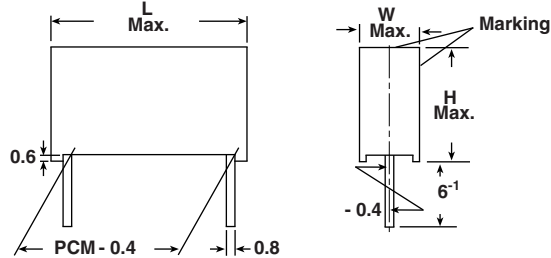


Metallized Polyester Film Capacitor

Related Document: IEC 60384-2

Dimensions in millimeters



MAIN APPLICATIONS

Blocking, bypassing, filtering, timing, coupling and decoupling circuits, interference suppression in low voltage applications.

MARKING

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

DIELECTRIC

Polyester film

ELECTRODES

Vacuum deposited aluminum

COATING

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

CONSTRUCTION

Extended metallized film

LEADS

Tinned wire

IEC TEST CLASSIFICATION

55/100/56, according to IEC 60068

TEMPERATURE RANGE

- 55 °C to + 100 °C

CAPACITANCE RANGE

1000 pF to 15 μF

CAPACITANCE TOLERANCES

± 20 % (M), ± 10 % (K), ± 5 % (J)

MAXIMUM PULSE RISE TIME dV/dt

| PCM (mm) | Maximum Pulse Rise Time dV/dt [V/μs] | | | | | |
|----------|--------------------------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| | 63 V _{DC} | 100 V _{DC} | 250 V _{DC} | 400 V _{DC} | 630 V _{DC} | 1000 V _{DC} |
| 10 | 11 | 13 | 22 | 37 | 60 | 130 |
| 15 | 7 | 8 | 13 | 21 | 33 | 65 |
| 22.5 | 4 | 5 | 8 | 13 | 19 | 34 |
| 27.5 | 3 | 4 | 6 | 10 | 14 | 25 |

Note

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

FEATURES

- Compliant to RoHS directive 2002/95/EC

RATED VOLTAGES (U_R)

63 V_{DC}, 100 V_{DC}, 250 V_{DC}, 400 V_{DC}, 630 V_{DC}, 1000 V_{DC}

PERMISSIBLE AC VOLTAGES (RMS) UP TO 60 Hz

40 V_{AC}, 63 V_{AC}, 160 V_{AC}, 200 V_{AC}, 220 V_{AC}

TEST VOLTAGE (ELECTRODE/ELECTRODE)

1.6 x U_R for 2 s

INSULATION RESISTANCE

Measured at 100 V_{DC} (63 V_{DC} series measured at 50 V_{DC}) after one minute

For C ≤ 0.33 μF and U_R > 100 V_{DC}:

30 000 MΩ minimum value (100 000 MΩ typical value)

For C ≤ 0.33 μF and U_R ≤ 100 V_{DC}:

15 000 MΩ minimum value (50 000 MΩ typical value)

TIME CONSTANT

Measured at 100 V_{DC} (63 V_{DC} series measured at 50 V_{DC}) after one minute

For C > 0.33 μF and U_R > 100 V_{DC}:

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

For C > 0.33 μF and U_R ≤ 100 V_{DC}:

5000 s minimum value (15 000 s typical value)

CAPACITANCE DRIFT

Up to + 40 °C, ± 1.5 % 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 2 mm long leads

PULL TEST ON LEADS

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

DISSIPATION FACTOR tan δ

| MEASURED AT | C ≤ 0.1 μF | 0.1 μF < C ≤ 1.0 μF | C > 1.0 μF |
|----------------|-----------------------|-----------------------|-----------------------|
| 1 kHz | 8 x 10 ⁻³ | 8 x 10 ⁻³ | 10 x 10 ⁻³ |
| 10 kHz | 15 x 10 ⁻³ | 15 x 10 ⁻³ | - |
| 100 kHz | 25 x 10 ⁻³ | - | - |
| Maximum values | | | |



RoHS
COMPLIANT

| CAPACITANCE | CAPACITANCE CODE | VOLTAGE CODE 06 63 V _{DC} /40 V _{AC} | | | | VOLTAGE CODE 01 100 V _{DC} /63 V _{AC} | | | | VOLTAGE CODE 25 250 V _{DC} /160 V _{AC} | | | |
|-------------|------------------|---|------|------|------|--|------|------|------|---|------|------|------|
| | | W | H | L | PCM | W | H | L | PCM | W | H | L | PCM |
| 1000 pF | -210 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1500 pF | -215 | - | - | - | - | - | - | - | - | - | - | - | - |
| 2200 pF | -222 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3300 pF | -233 | - | - | - | - | - | - | - | - | - | - | - | - |
| 4700 pF | -247 | - | - | - | - | - | - | - | - | - | - | - | - |
| 6800 pF | -268 | - | - | - | - | - | - | - | - | - | - | - | - |
| 0.01 μF | -310 | - | - | - | - | - | - | - | - | - | - | - | - |
| 0.015 μF | -315 | - | - | - | - | - | - | - | - | - | - | - | - |
| 0.022 μF | -322 | - | - | - | - | - | - | - | - | - | - | - | - |
| 0.033 μF | -333 | - | - | - | - | - | - | - | - | 4.0 | 9.0 | 13.0 | 10 |
| 0.047 μF | -347 | - | - | - | - | - | - | - | - | 4.0 | 9.0 | 13.0 | 10 |
| 0.068 μF | -368 | - | - | - | - | 4.0 | 9.0 | 13.0 | 10 | 4.5 | 9.5 | 13.0 | 10 |
| 0.1 μF | -410 | - | - | - | - | 4.0 | 9.0 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 |
| 0.15 μF | -415 | - | - | - | - | 4.0 | 9.0 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 |
| 0.22 μF | -422 | 4.0 | 9.0 | 13.0 | 10 | 4.5 | 9.5 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 |
| 0.33 μF | -433 | 4.0 | 9.0 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 | 6.5 | 12.5 | 18.0 | 15 |
| 0.47 μF | -447 | 5.5 | 10.5 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 | 6.5 | 14.5 | 26.5 | 22.5 |
| 0.68 μF | -468 | 5.5 | 10.5 | 18.0 | 15 | 6.5 | 12.5 | 18.0 | 15 | 7.5 | 15.5 | 26.5 | 22.5 |
| 1.0 μF | -510 | 5.5 | 10.5 | 18.0 | 15 | 7.5 | 13.5 | 18.0 | 15 | 8.5 | 16.5 | 26.5 | 22.5 |
| 1.5 μF | -515 | 6.5 | 12.5 | 18.0 | 15 | 7.5 | 15.5 | 26.5 | 22.5 | 9.0 | 18.5 | 31.5 | 27.5 |
| 2.2 μF | -522 | 7.5 | 13.5 | 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 | - | - | - | - |
| 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 | - | - | - | - |
| 15.0 μF | -615 | 13.5 | 23.5 | 31.5 | 27.5 | 16.5 | 29.5 | 31.5 | 27.5 | - | - | - | - |

RECOMMENDED PACKAGING

| LETTER CODE | TYPE OF PACKAGING | HEIGHT (H) (mm) | REEL DIAMETER (mm) | ORDERING CODE EXAMPLES | PCM 10 | PCM 15 | PCM 22.5 to 27.5 |
|-------------|-------------------|-----------------|--------------------|------------------------|--------|--------|------------------|
| D | Ammo | 16.5 | S ⁽¹⁾ | MKT 1822-422-065-D | X | X | - |
| G | Ammo | 18.5 | S ⁽¹⁾ | MKT 1822-422-065-G | X | X | - |
| F | Reel | 16.5 | 350 | MKT 1822-422-065-F | X | X | - |
| W | Reel | 18.5 | 350 | MKT 1822-422-065-W | X | X | - |
| V | Reel | 18.5 | 500 | MKT 1822-510-255-V | - | X | X |
| G | Ammo | 18.5 | L ⁽²⁾ | MKT 1822-510-255-G | - | - | X |
| - | Bulk | - | - | MKT 1822-510-255 | X | X | X |

Notes⁽¹⁾ S = box size 55 mm x 210 mm x 340 mm (W x H x L)⁽²⁾ L = box size 60 mm x 360 mm x 510 mm (W x H x L)



| CAPACITANCE | CAPACITANCE CODE | VOLTAGE CODE 40 400 V _{DC} /200 V _{AC} | | | | VOLTAGE CODE 63* 630 V _{DC} /220 V _{AC} | | | | VOLTAGE CODE 10* 1000 V _{DC} /220 V _{AC} | | | |
|-------------|------------------|---|------|------|------|--|------|------|------|---|------|------|------|
| | | W | H | L | PCM | W | H | L | PCM | W | H | L | PCM |
| 1000 pF | -210 | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 |
| 1500 pF | -215 | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 |
| 2200 pF | -222 | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 |
| 3300 pF | -233 | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 |
| 4700 pF | -247 | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 | 5.5 | 10.5 | 13.0 | 10 |
| 6800 pF | -268 | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 | 6.5 | 11.5 | 13.0 | 10 |
| 0.01 μF | -310 | 4.0 | 9.0 | 13.0 | 10 | 4.0 | 9.0 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 |
| 0.015 μF | -315 | 4.0 | 9.0 | 13.0 | 10 | 5.5 | 10.5 | 13.0 | 10 | 6.5 | 12.5 | 18.0 | 15 |
| 0.022 μF | -322 | 4.0 | 9.0 | 13.0 | 10 | 6.5 | 11.5 | 13.0 | 10 | 7.5 | 13.5 | 18.0 | 15 |
| 0.033 μF | -333 | 4.0 | 9.0 | 13.0 | 10 | 5.5 | 10.5 | 18.0 | 15 | 6.5 | 14.5 | 26.5 | 22.5 |
| 0.047 μF | -347 | 5.5 | 10.5 | 18.0 | 15 | 6.5 | 12.5 | 18.0 | 15 | 7.5 | 15.5 | 26.5 | 22.5 |
| 0.068 μF | -368 | 5.5 | 10.5 | 18.0 | 15 | 7.5 | 13.5 | 18.0 | 15 | 8.5 | 16.5 | 26.5 | 22.5 |
| 0.1 μF | -410 | 5.5 | 10.5 | 18.0 | 15 | 6.5 | 14.5 | 26.5 | 22.5 | 10.5 | 18.5 | 26.5 | 22.5 |
| 0.15 μF | -415 | 6.5 | 12.5 | 18.0 | 15 | 7.5 | 15.5 | 26.5 | 22.5 | 11.5 | 20.5 | 31.5 | 27.5 |
| 0.22 μF | -422 | 7.5 | 15.5 | 26.5 | 22.5 | 8.5 | 16.5 | 26.5 | 22.5 | 13.5 | 23.5 | 31.5 | 27.5 |
| 0.33 μF | -433 | 8.5 | 16.5 | 26.5 | 22.5 | 11.5 | 20.5 | 31.5 | 27.5 | 16.5 | 29.5 | 31.5 | 27.5 |
| 0.47 μF | -447 | 10.5 | 18.5 | 26.5 | 22.5 | 11.5 | 20.5 | 31.5 | 27.5 | 20.0 | 35.0 | 31.5 | 27.5 |
| 0.68 μF | -468 | 11.5 | 20.5 | 31.5 | 27.5 | 13.5 | 23.5 | 31.5 | 27.5 | - | - | - | - |
| 1.0 μF | -510 | 11.5 | 20.5 | 31.5 | 27.5 | 15.0 | 24.5 | 31.5 | 27.5 | - | - | - | - |
| 1.5 μF | -515 | 13.5 | 23.5 | 31.5 | 27.5 | - | - | - | - | - | - | - | - |
| 2.2 μF | -522 | - | - | - | - | - | - | - | - | - | - | - | - |
| 3.3 μF | -533 | - | - | - | - | - | - | - | - | - | - | - | - |
| 4.7 μF | -547 | - | - | - | - | - | - | - | - | - | - | - | - |
| 6.8 μF | -568 | - | - | - | - | - | - | - | - | - | - | - | - |
| 10.0 μF | -610 | - | - | - | - | - | - | - | - | - | - | - | - |
| 15.0 μF | -615 | - | - | - | - | - | - | - | - | - | - | - | - |

Notes

• Further C-values upon request.

* Not suitable for mains applications.

Please refer to X-capacitors in our catalog “RFI Suppression Components”

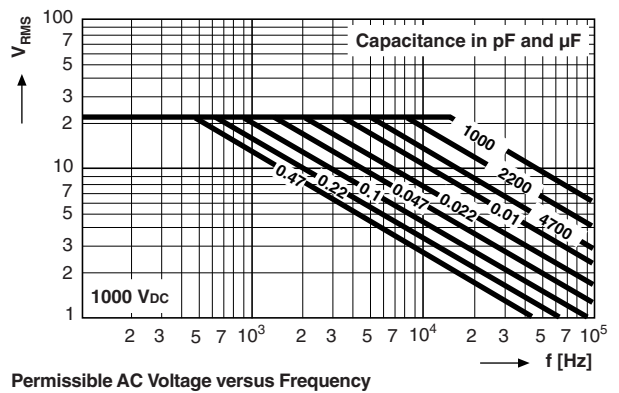
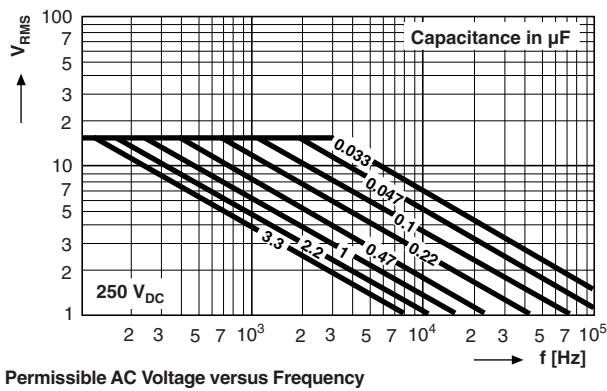
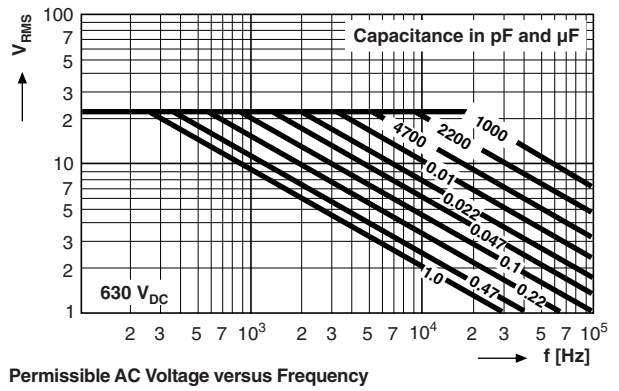
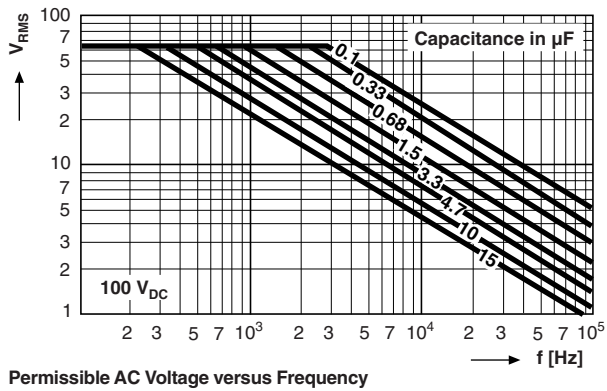
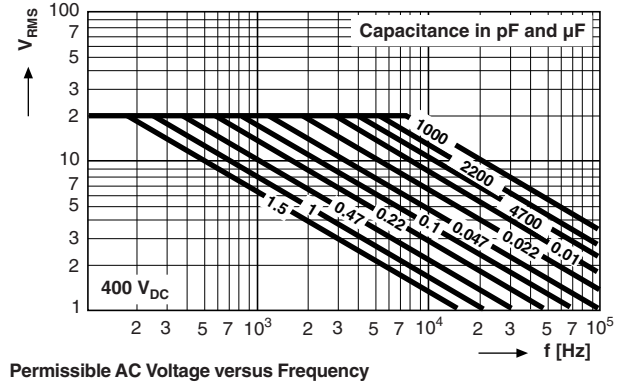
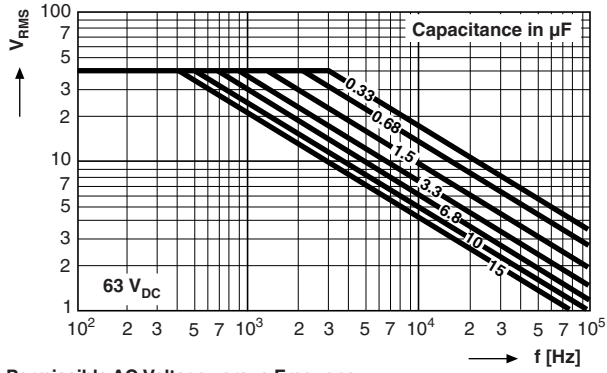
RECOMMENDED PACKAGING

| LETTER CODE | TYPE OF PACKAGING | HEIGHT (H) (mm) | REEL DIAMETER (mm) | ORDERING CODE EXAMPLES | PCM 10 | PCM 15 | PCM 22.5 to 27.5 |
|-------------|-------------------|-----------------|--------------------|------------------------|--------|--------|------------------|
| D | Ammo | 16.5 | S ⁽¹⁾ | MKT 1822-422-065-D | X | X | - |
| G | Ammo | 18.5 | S ⁽¹⁾ | MKT 1822-422-065-G | X | X | - |
| F | Reel | 16.5 | 350 | MKT 1822-422-065-F | X | X | - |
| W | Reel | 18.5 | 350 | MKT 1822-422-065-W | X | X | - |
| V | Reel | 18.5 | 500 | MKT 1822-510-255-V | - | X | X |
| G | Ammo | 18.5 | L ⁽²⁾ | MKT 1822-510-255-G | - | - | X |
| - | Bulk | - | - | MKT 1822-522-255 | X | - | X |

Notes

⁽¹⁾ S = box size 55 mm x 210 mm x 340 mm (W x H x L)

⁽²⁾ L = box size 60 mm x 360 mm x 510 mm (W x H x L)





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