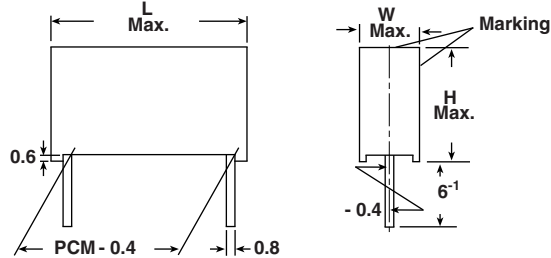


## Metallized Polyester Film Capacitor Related Document: IEC 60384-2

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 <sub>DC</sub>	100 V <sub>DC</sub>	250 V <sub>DC</sub>	400 V <sub>DC</sub>	630 V <sub>DC</sub>	1000 V <sub>DC</sub>
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<sub>R</sub>)

63 V<sub>DC</sub>, 100 V<sub>DC</sub>, 250 V<sub>DC</sub>, 400 V<sub>DC</sub>, 630 V<sub>DC</sub>, 1000 V<sub>DC</sub>

### PERMISSIBLE AC VOLTAGES (RMS) UP TO 60 Hz

40 V<sub>AC</sub>, 63 V<sub>AC</sub>, 160 V<sub>AC</sub>, 200 V<sub>AC</sub>, 220 V<sub>AC</sub>

### TEST VOLTAGE (ELECTRODE/ELECTRODE)

1.6 x U<sub>R</sub> for 2 s

### INSULATION RESISTANCE

Measured at 100 V<sub>DC</sub> (63 V<sub>DC</sub> series measured at 50 V<sub>DC</sub>) after one minute

For C ≤ 0.33 μF and U<sub>R</sub> > 100 V<sub>DC</sub>:

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

For C ≤ 0.33 μF and U<sub>R</sub> ≤ 100 V<sub>DC</sub>:

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

### TIME CONSTANT

Measured at 100 V<sub>DC</sub> (63 V<sub>DC</sub> series measured at 50 V<sub>DC</sub>) after one minute

For C > 0.33 μF and U<sub>R</sub> > 100 V<sub>DC</sub>:

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

For C > 0.33 μF and U<sub>R</sub> ≤ 100 V<sub>DC</sub>:

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<sub>C</sub>

At + 85 °C: U<sub>C</sub> = 1.0 U<sub>R</sub>

At + 100 °C: U<sub>C</sub> = 0.8 U<sub>R</sub>

### 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 <sup>-3</sup>	8 x 10 <sup>-3</sup>	10 x 10 <sup>-3</sup>
10 kHz	15 x 10 <sup>-3</sup>	15 x 10 <sup>-3</sup>	-
100 kHz	25 x 10 <sup>-3</sup>	-	-
Maximum values			



**RoHS**  
COMPLIANT

CAPACITANCE	CAPACITANCE CODE	VOLTAGE CODE 06 63 V <sub>DC</sub> /40 V <sub>AC</sub>				VOLTAGE CODE 01 100 V <sub>DC</sub> /63 V <sub>AC</sub>				VOLTAGE CODE 25 250 V <sub>DC</sub> /160 V <sub>AC</sub>			
		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 <sup>(1)</sup>	MKT 1822-422-065-D	X	X	-
G	Ammo	18.5	S <sup>(1)</sup>	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 <sup>(2)</sup>	MKT 1822-510-255-G	-	-	X
-	Bulk	-	-	MKT 1822-510-255	X	X	X

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



CAPACITANCE	CAPACITANCE CODE	VOLTAGE CODE 40 400 V <sub>DC</sub> /200 V <sub>AC</sub>				VOLTAGE CODE 63* 630 V <sub>DC</sub> /220 V <sub>AC</sub>				VOLTAGE CODE 10* 1000 V <sub>DC</sub> /220 V <sub>AC</sub>			
		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
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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”

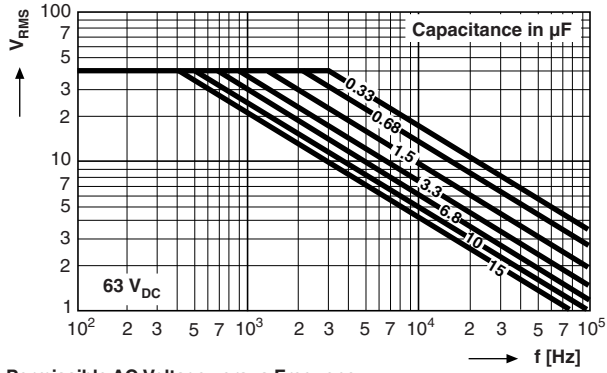
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W	Reel	18.5	350	MKT 1822-422-065-W	X	X	-
V	Reel	18.5	500	MKT 1822-510-255-V	-	X	X
G	Ammo	18.5	L <sup>(2)</sup>	MKT 1822-510-255-G	-	-	X
-	Bulk	-	-	MKT 1822-522-255	X	-	X

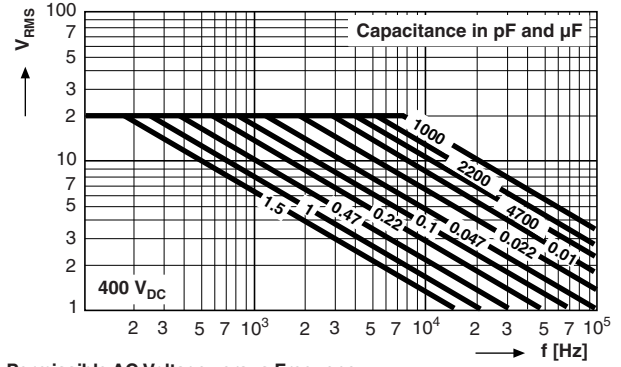
**Notes**

<sup>(1)</sup> S = box size 55 mm x 210 mm x 340 mm (W x H x L)

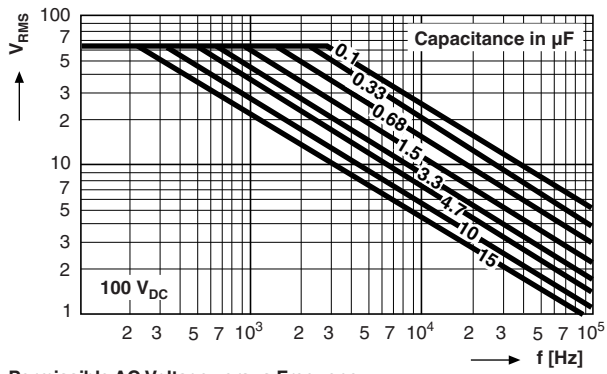
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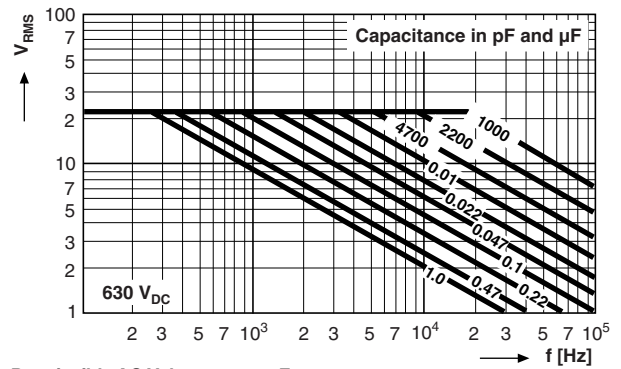
Permissible AC Voltage versus Frequency



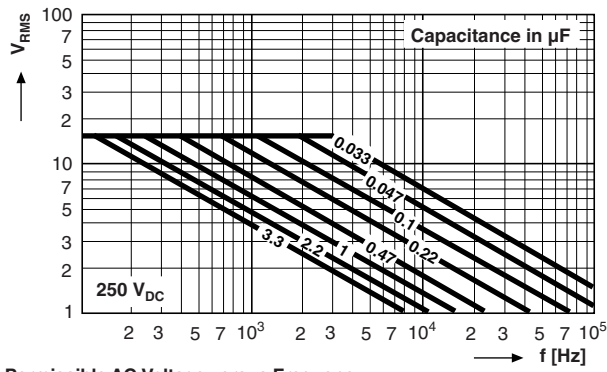
Permissible AC Voltage versus Frequency



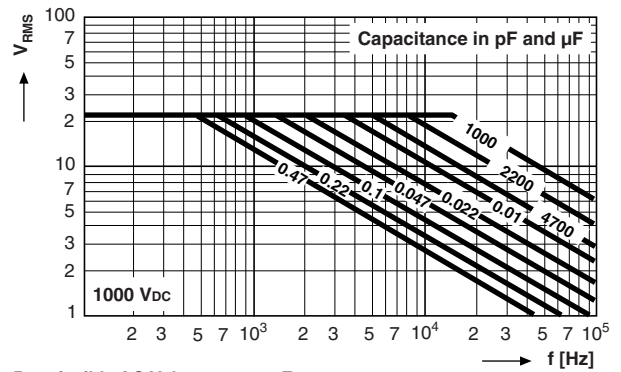
Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency



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