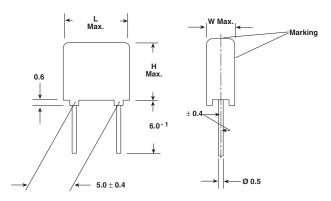
## Vishay Roederstein

# **Metallized Polyester Film Capacitors** Related Document: IEC 60384-2

Dimensions in millimeters



MAIN APPLICATIONS

Blocking, bypassing, filtering and timing, high frequency coupling and decoupling for fast digital and analog ICs, 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 (UL-class 94 V-0), green, epoxy resin sealed

#### CONSTRUCTION

Extended metallized film (refer to general information)

#### LEADS

Tinned wire

IEC TEST CLASSIFICATION 55/100/56, according to IEC 60068

# TEST VOLTAGE (ELECTRODE/ELECTRODE) 1.6 x $U_R$ for 2 s

# **OPERATING TEMPERATURE RANGE** - 55°C to + 100°C

#### **MAXIMUM PULSE RISE TIME**

PCM (mm)	Maximum Pulse Rise Time d <sub>ν</sub> /d <sub>t</sub> [V/μs]						
	63 VDC	100 VDC	250 VDC	400 VDC			
5	15	24	44	100			

If the maximum pulse voltage is less than the rated voltage higher d<sub>v</sub>/d<sub>t</sub> values can be permitted.

#### DISSIPATION FACTOR TAN $\delta$

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

**FEATURES** 

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



CAPACITANCE RANGE

1000pF to 1.0μFF



RoHS COMPLIANT

**CAPACITANCE TOLERANCES**  $\pm 20\%$  (M),  $\pm 10\%$  (K),  $\pm 5\%$  (J)

RATED VOLTAGES (UR) 63 VDC, 100 VDC, 250 VDC, 400 VDC

PERMISSIBLE AC VOLTAGES (RMS) UP TO 60HZ 40 VAC, 63 VAC, 160 VAC, 200 VAC

#### INSULATION RESISTANCE

Measured with 100 VDC

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

For C  $\leq$  0.33 $\mu$ F and U<sub>R</sub> > 100 VDC:

7500 MΩ minimum value (100,000 MΩ typical value) For C  $\leq$  0.33μF and U<sub>R</sub>  $\leq$  100 VDC:

3750 M $\Omega$  minimum value (50,000 M $\Omega$  typical value)

TIME CONSTANT

Measured with 50 VDC after one minute

For C > 0.33uF:

1250 s minimum value (10,000 s typical value)

CAPACITANCE DRIFT

Up to  $\pm 40^{\circ}$ C,  $\pm 1.5\%$  for a period of two years

### DERATING FOR DC AND AC. CATEGORY VOLTAGE UC

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

#### SELF INDUCTANCE

~ 6nH measured with 2mm long leads

#### **PULL TEST ON LEADS**

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

### RELIABILITY

Operational life > 300,000h

Failure rate < 2 FIT (40°C and 0.5 x U<sub>B</sub>)

For further details, please refer to the general information available at <a href="https://www.vishay.com/doc?26033">www.vishay.com/doc?26033</a>.

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CAPACITANCE	APACITANCE 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	Н	L	w	Н	L	w	Н	L	w	Н	L
1000pF	- 210	_	_	_	_	_	_	_	_	_	2.5	6.0	7.5
1500pF	- 215	_	_	_	_	_	_	_	_	_	2.5	6.0	7.5
2200pF	- 222	_	_	_	_	_	_	_	_	_	2.5	6.0	7.5
3300pF	- 233	_	_	_	_	_	_	2.5	6.0	7.5	3.0	6.5	7.5
4700pF	- 247	_	_	_	_	_	_	2.5	6.0	7.5	3.5	8.5	7.5
6800pF	- 268	_	_	_	_	_	_	2.5	6.0	7.5	3.5	8.5	7.5
0.01μF	- 310	_	_	_	_	_	_	2.5	6.0	7.5	4.5	9.5	7.5
0.015μF	- 315	_	_	_	_	_	_	2.5	6.0	7.5	5.0	10.0	7.5
0.022μF	- 322	_	_	_	2.5	6.0	7.5	3.0	6.5	7.5	5.5	11.5	7.5
0.033μF	- 333	_	_	_	2.5	6.0	7.5	3.5	8.5	7.5	_	_	_
0.047μF	- 347	_	_	_	2.5	6.0	7.5	4.5	9.5	7.5	_	_	_
0.068μF	- 368	_	_	_	2.5	6.0	7.5	4.5	9.5	7.5	_	_	_
0.1μF	- 410	2.5	6.0	7.5	3.5	8.5	7.5	5.5	11.5	7.5	_	_	_
0.15μF	- 415	3.5	8.5	7.5	4.5	9.5	7.5	_	_	_	_	_	_
0.22μF	- 422	3.5	8.5	7.5	5.0	10.0	7.5	_	_	_	_	_	_
0.33μF	- 433	4.5	9.5	7.5	5.5	9.0	11.5	7.5	_	_	_	_	_
0.47μF	- 447	5.0	10.0	7.5	_	_	_	_	_	_	_	_	_
0.68μF	-468	5.0	10.5	7.5	_	_	_	_	_	_	_	_	_
1.0μF	- 510	5.5	11.5	7.5	_	_	_	_	_	_	_	_	_

Further values upon request. For C-values >  $1.0\mu F$  please refer to type MKT 1826.

### **RECOMMENDED PACKAGING**

LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER (mm)	ORDERING CODE EXAMPLES	PCM 5
D	AMMO	16.5	S*	MKT 1817-233-255-D	Х
G	AMMO	18.5	S*	MKT 1817-233-255-G	Х
F	REEL	16.5	350	MKT 1817-233-255-F	Х
W	REEL	18.5	350	MKT 1817-233-255-W	Х
_	BULK	_	_	MKT 1817-233-255	Х

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





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

VRMS

3

2

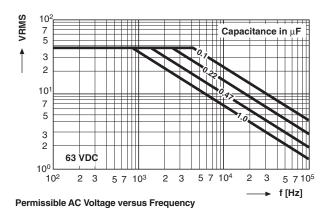
10 7

# Vishay Roederstein

Capacitance in  $\mu F$ 

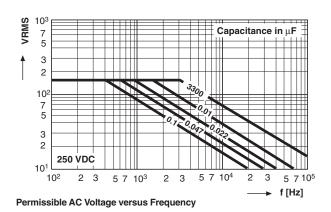
5 7 10<sup>5</sup>

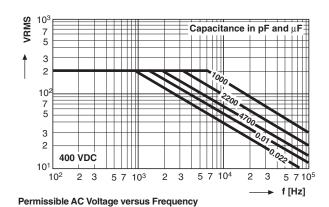
f [Hz]



5 3 100 VDC 100 5 7 10<sup>4</sup>

Permissible AC Voltage versus Frequency





0.1 0.01 2 3 f [MHz]

Impedance versus Frequency Z = f (f) (Lead Length 2.0mm)



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