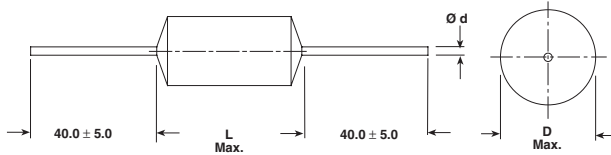


## Metallized Polycarbonate Film Capacitor

### Related Document: IEC 60384-6

Dimensions in millimeters



D	Ø D
≤ 7.0	0.7
< 16.0	0.8
≥ 16.5	1.0

**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**

Plastic-wrapping, epoxy resin sealed

**CONSTRUCTION**

Extended metallized film (refer to general information)

**LEADS**

Tinned wire

**IEC TEST CLASSIFICATION**

55/100/21, according to IEC 60068

**OPERATING TEMPERATURE RANGE**

-55°C to +100°C

**CAPACITANCE RANGE**

0.01µF to 10µF

**CAPACITANCE TOLERANCES**

± 10% (K), ± 5% (J)

**FEATURES**

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

**RATED VOLTAGES (U<sub>R</sub>)**

63 VDC, 100 VDC, 250 VDC, 400 VDC

**PERMISSIBLE AC VOLTAGES (RMS) UP TO 60HZ**

40 VAC, 63 VAC, 160 VAC, 200 VAC

**TEST VOLTAGE (ELECTRODE/ELECTRODE)**

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

**INSULATION RESISTANCE**

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

**For C ≤ 0.33µF and U<sub>R</sub> > 100 VDC:**

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

**For C ≤ 0.33µF and U<sub>R</sub> ≤ 100 VDC:**

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

**TIME CONSTANT**

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

**For C > 0.33µF and U<sub>R</sub> > 100 VDC:**

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

**For C > 0.33µF and U<sub>R</sub> ≤ 100 VDC:**

5,000 s minimum value (15,000 s typical value)

**CAPACITANCE DRIFT**

Up to +40°C, ±2% 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**

~ 12 nH measured with 6mm long leads

**PULL TEST ON LEADS**

≥ 20 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 &gt; 300,000 h

 Failure rate < 1 FIT (40°C and 0.5 x U<sub>R</sub>)

 For further details, please refer to the general information available at [www.vishay.com/doc?26033](http://www.vishay.com/doc?26033).

**RoHS**  
 COMPLIANT

**MAXIMUM PULSE RISE TIME**

CAPACITOR LENGTH (mm)	Maximum Pulse Rise Time d <sub>v</sub> /d <sub>t</sub> [V/µs]			
	63 VDC	100 VDC	250 VDC	400 VDC
14	17	23	38	61
19	9	13	21	33
26.5	6	8	13	20
31.5	5	6	10	16

 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 $\delta$

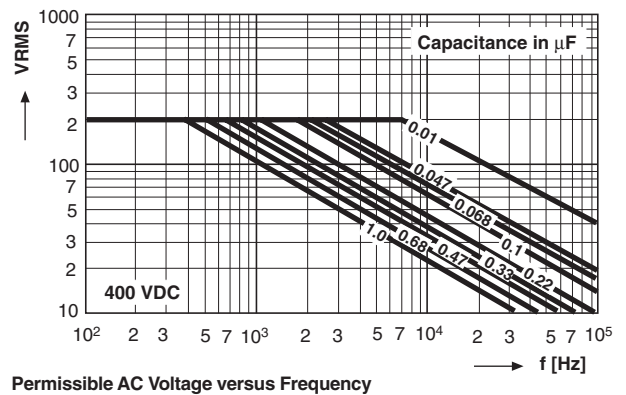
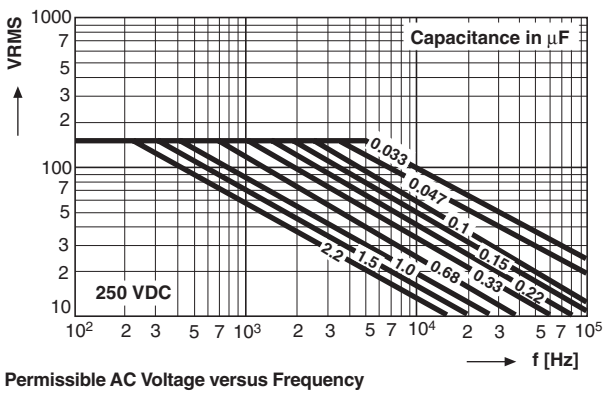
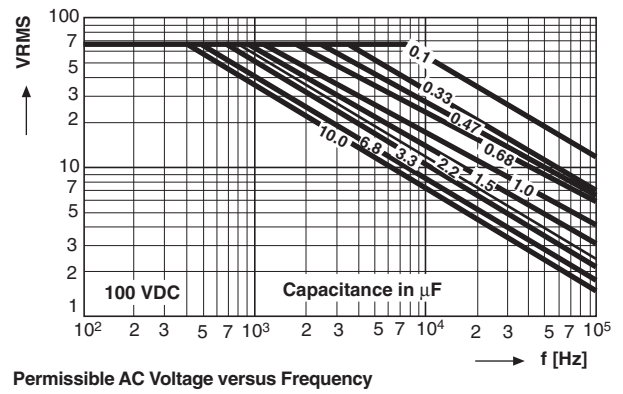
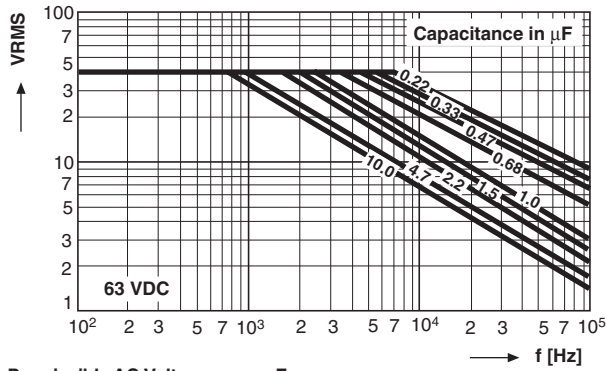
MEASURED AT	$C \leq 0.1\mu\text{F}$	$0.1\mu\text{F} < C \leq 1.0\mu\text{F}$	$C > 1.0\mu\text{F}$
1kHz	$3 \times 10^{-3}$	$3 \times 10^{-3}$	$3 \times 10^{-3}$
10kHz	$4 \times 10^{-3}$	$4 \times 10^{-3}$	—
100kHz	$10 \times 10^{-3}$	—	—
Maximum values			

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	
		D	L	D	L	D	L	D	L
0.01 $\mu\text{F}$	- 310	—	—	—	—	—	—	6.0	14.0
0.015 $\mu\text{F}$	- 315	—	—	—	—	—	—	6.0	14.0
0.022 $\mu\text{F}$	- 322	—	—	—	—	—	—	6.0	14.0
0.033 $\mu\text{F}$	- 333	—	—	—	—	6.0	14.0	6.0	14.0
0.047 $\mu\text{F}$	- 347	—	—	—	—	6.0	14.0	7.0	14.0
0.068 $\mu\text{F}$	- 368	—	—	—	—	6.0	14.0	8.0	14.0
0.10 $\mu\text{F}$	- 410	—	—	6.0	14.0	7.0	14.0	7.5	19.0
0.15 $\mu\text{F}$	- 415	—	—	6.0	14.0	7.5	14.0	8.5	19.0
0.22 $\mu\text{F}$	- 422	6.0	14.0	6.0	14.0	7.0	19.0	8.5	26.5
0.33 $\mu\text{F}$	- 433	6.0	14.0	6.0	19.0	8.0	19.0	10.0	26.5
0.47 $\mu\text{F}$	- 447	7.0	14.0	7.0	19.0	9.5	19.0	11.5	26.5
0.68 $\mu\text{F}$	- 468	6.5	19.0	8.0	19.0	9.0	26.5	12.0	31.5
1.0 $\mu\text{F}$	- 510	7.5	19.0	9.0	19.0	10.5	26.5	14.5	31.5
1.5 $\mu\text{F}$	- 515	8.5	19.0	9.0	26.5	11.5	31.5	—	—
2.2 $\mu\text{F}$	- 522	9.0	19.0	10.5	26.5	13.5	31.5	—	—
3.3 $\mu\text{F}$	- 533	9.5	26.5	12.5	26.5	—	—	—	—
4.7 $\mu\text{F}$	- 547	11.0	26.5	13.0	31.5	—	—	—	—
6.8 $\mu\text{F}$	- 568	12.0	31.5	15.5	31.5	—	—	—	—
10 $\mu\text{F}$	- 610	14.0	31.5	17.5	31.5	—	—	—	—

Further C-values upon request  
pcm = L + 3.5

## RECOMMENDED PACKAGING

LETTER CODE	TYPE OF PACKAGING	REEL DIAMETER (mm)	ORDERING CODE EXAMPLE	
G	AMMO	—	MKC 1860-422/404-G	X
R	REEL	350	MKC 1860-422/404-R	X
—	BULK	—	MKC 1860-422/404	X





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