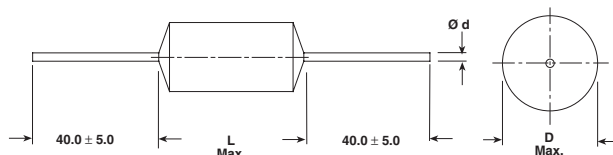


Metallized Polycarbonate Film Capacitor

Related Document: IEC 60384-6

Dimensions in millimeters



D	$\varnothing D$
≤ 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 $+100^{\circ}\text{C}$

CAPACITANCE RANGE

$0.01\mu\text{F}$ to $10\mu\text{F}$

CAPACITANCE TOLERANCES

$\pm 10\%$ (K), $\pm 5\%$ (J)

FEATURES

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

RATED VOLTAGES (U_R)

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)

$1.6 \times U_R$ for 2 s

INSULATION RESISTANCE

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

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

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

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

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

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

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

CAPACITANCE DRIFT

Up to $+40^{\circ}\text{C}$, $\pm 2\%$ for a period of two years

DERATING FOR DC AND AC. CATEGORY VOLTAGE U_C

At $+85^{\circ}\text{C}$: $U_C = 1.0 U_R$

At $+100^{\circ}\text{C}$: $U_C = 0.8 U_R$

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 $> 300,000$ h

Failure rate < 1 FIT (40°C and $0.5 \times U_R$)

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



RoHS
COMPLIANT

MAXIMUM PULSE RISE TIME

CAPACITOR LENGTH (mm)	Maximum Pulse Rise Time d_v/d_t [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_v/d_t 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	3×10^{-3}	3×10^{-3}	3×10^{-3}
10kHz	4×10^{-3}	4×10^{-3}	—
100kHz	10×10^{-3}	—	—
Maximum values			

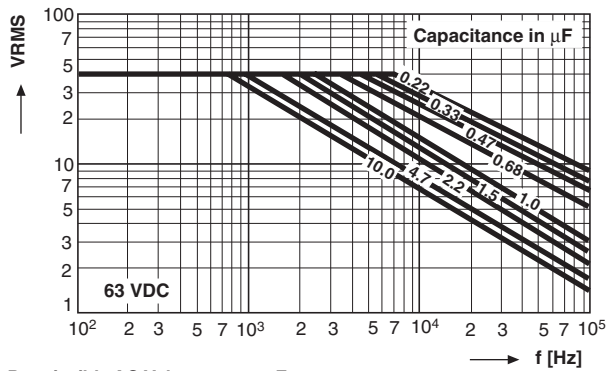
CAPACITANCE	CAPACITANCE CODE	VOLTAGE CODE 06 63 VDC/ 40 VAC		VOLTAGE CODE 01 100 VDC/ 63 VAC		VOLTAGE CODE 25 250 VDC/ 160 VAC		VOLTAGE CODE 40 400 VDC/ 200 VAC	
		D	L	D	L	D	L	D	L
0.01 μF	- 310	—	—	—	—	—	—	6.0	14.0
0.015 μF	- 315	—	—	—	—	—	—	6.0	14.0
0.022 μF	- 322	—	—	—	—	—	—	6.0	14.0
0.033 μF	- 333	—	—	—	—	6.0	14.0	6.0	14.0
0.047 μF	- 347	—	—	—	—	6.0	14.0	7.0	14.0
0.068 μF	- 368	—	—	—	—	6.0	14.0	8.0	14.0
0.10 μF	- 410	—	—	6.0	14.0	7.0	14.0	7.5	19.0
0.15 μF	- 415	—	—	6.0	14.0	7.5	14.0	8.5	19.0
0.22 μF	- 422	6.0	14.0	6.0	14.0	7.0	19.0	8.5	26.5
0.33 μF	- 433	6.0	14.0	6.0	19.0	8.0	19.0	10.0	26.5
0.47 μF	- 447	7.0	14.0	7.0	19.0	9.5	19.0	11.5	26.5
0.68 μF	- 468	6.5	19.0	8.0	19.0	9.0	26.5	12.0	31.5
1.0 μF	- 510	7.5	19.0	9.0	19.0	10.5	26.5	14.5	31.5
1.5 μF	- 515	8.5	19.0	9.0	26.5	11.5	31.5	—	—
2.2 μF	- 522	9.0	19.0	10.5	26.5	13.5	31.5	—	—
3.3 μF	- 533	9.5	26.5	12.5	26.5	—	—	—	—
4.7 μF	- 547	11.0	26.5	13.0	31.5	—	—	—	—
6.8 μF	- 568	12.0	31.5	15.5	31.5	—	—	—	—
10 μF	- 610	14.0	31.5	17.5	31.5	—	—	—	—

Further C-values upon request

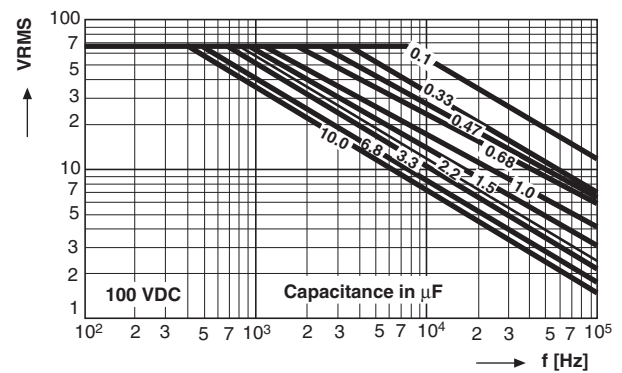
pcm = L + 3.5

RECOMMENDED PACKAGING

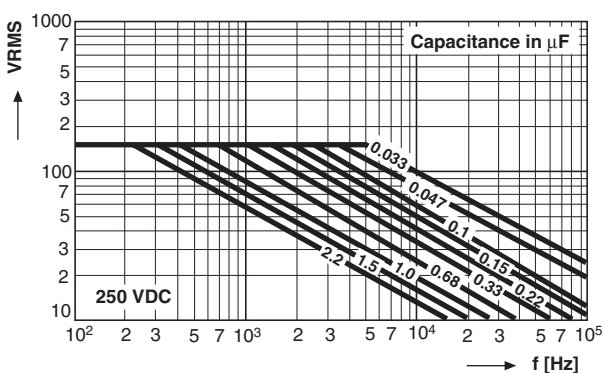
LETTER CODE	TYPE OF PACKAGING	REEL DIAMETER (mm)	ORDERING CODE EXAMPLE	
G	AMMO	—	MKC 1860-422/404-G	X
R	REEL	350	MKC 1860-422/404-R	X
—	BULK	—	MKC 1860-422/404	X



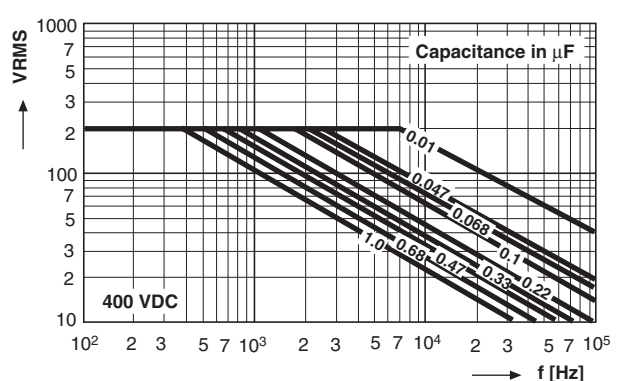
Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency



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