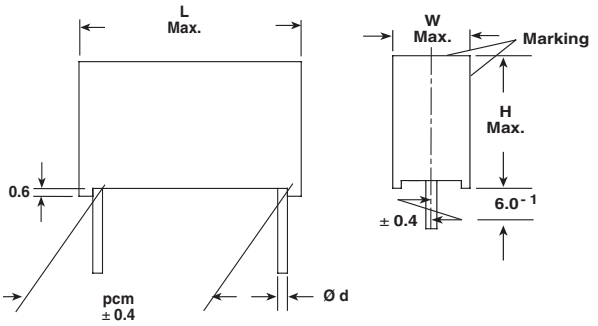
Polypropylene Film Capacitors
Related Document: IEC 60384-17 Grade 1.2

Dimensions in millimeters



W	Ø d
≥ 16	1.0
< 16.0	0.8

MAIN APPLICATIONS
High voltage, very high current and high pulse operations, deflection circuits in TV sets (fly-back tuning). Electronic ballasts, protection circuits in SMPS's. Snubber and SCR commutating circuits.

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

DIELECTRIC
Polypropylene film

ELECTRODES
Aluminum foil

COATING
Flame retardant plastic case (UL-class 94 V-0), blue, epoxy resin sealed. Flame class B according to IEC 60065 available on request

CONSTRUCTION
Extended aluminum foil, internal series connection, double-sided metallized, polyester carrier film (refer to general information)

INSULATION RESISTANCE
Measured at 500 VDC after one minute
100 000 MΩ minimum value, (1000 GΩ typical value)

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

Pb-free

e3

RoHS COMPLIANT

LEADS
Tinned wire

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

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

CAPACITANCE RANGE
100 pF to 0.22 µF

CAPACITANCE TOLERANCES
± 10 % (K), ± 5 % (J)

RATED VOLTAGES (U_R):
630 VDC, 1000 VDC, 1250 VDC, 1600 VDC, 2000 VDC

PERMISSIBLE AC VOLTAGES (RMS) UP TO 60 Hz
300 VAC, 350 VAC, 400 VAC, 500 VAC, 600 VAC

TEST VOLTAGE (ELECTRODE/ELECTRODE)
2 x UR for 2 s

TEMPERATURE COEFFICIENT
- 250 x 10^{-6}/°C (typical value)

CAPACITANCE DRIFT
Up to + 40 °C, ± 0.5 % 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: $U_C = 0.7\ U_R$

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

RELIABILITY
Operational life > 300 000 h
Failure rate < 1 FIT (0.5 x UR and 40 °C)

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

MAXIMUM PULSE RISE TIME

PCM (mm)	Maximum Pulse Rise Time d_v/d_t [V/µs]				
	630 VDC	1000 VDC	1250 VDC	1600 VDC	2000 VDC
15	6500	8200	11 100	13 900	13 900
22.5	2600	3200	4600	6000	9800
27.5	1800	2300	3100	4000	6000
37.5	1200	1500	1900	2400	3500

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

DISSIPATION FACTOR TAN δ

MEASURED AT	C ≤ 0.1 µF	C > 1.0 µF
1 kHz	0.3 x 10^{-3}	0.3 x 10^{-3}
10 kHz	0.4 x 10^{-3}	0.4 x 10^{-3}
100 kHz	1 x 10^{-3}	-
	Maximum values	

CAPACITANCE	CAPACITANCE CODE	VOLTAGE CODE 63 630 VDC/300 VAC				VOLTAGE CODE 10 1000 VDC/350 VAC				VOLTAGE CODE 12 1250 VDC/400 VAC			
		W	H	L	PCM	W	H	L	PCM	W	H	L	PCM
100 pF	- 110	-	-	-	-	-	-	-	-	-	-	-	-
150 pF	- 115	-	-	-	-	-	-	-	-	-	-	-	-
220 pF	- 122	-	-	-	-	-	-	-	-	-	-	-	-
330 pF	- 133	-	-	-	-	-	-	-	-	-	-	-	-
470 pF	- 147	-	-	-	-	-	-	-	-	-	-	-	-
680 pF	- 168	-	-	-	-	-	-	-	-	-	-	-	-
1000 pF	- 210	-	-	-	-	-	-	-	-	-	-	-	-
1200 pF	- 212	-	-	-	-	-	-	-	-	5.5	10.5	18.0	15
1500 pF	- 215	-	-	-	-	-	-	-	-	5.5	10.5	18.0	15
1800 pF	- 218	-	-	-	-	5.5	10.5	18.0	15	6.5	12.5	18.0	15
2200 pF	- 222	-	-	-	-	5.5	10.5	18.0	15	6.5	12.5	18.0	15
2700 pF	- 227	5.5	10.5	18.0	15	6.5	12.5	18.0	15	7.5	13.5	18.0	15
3300 pF	- 233	5.5	10.5	18.0	15	6.5	12.5	18.0	15	7.5	13.5	18.0	15
3900 pF	- 239	6.5	12.5	18.0	15	7.5	13.5	18.0	15	6.5	14.5	26.5	22.5
4700 pF	- 247	6.5	12.5	18.0	15	7.5	13.5	18.0	15	6.5	14.5	26.5	22.5
5600 pF	- 256	7.5	13.5	18.0	15	8.5	14.5	18.0	15	6.5	14.5	26.5	22.5
6800 pF	- 268	7.5	13.5	18.0	15	8.5	14.5	18.0	15	6.5	14.5	26.5	22.5
8200 pF	- 282	8.5	14.5	18.0	15	6.5	14.5	26.5	22.5	57.5	15.5	26.5	22.5
0.01 µF	- 310	8.5	14.5	18.0	15	6.5	14.5	26.5	22.5	7.5	15.5	26.5	22.5
0.012 µF	- 312	8.5	17.5	18.0	15	7.5	15.5	26.5	22.5	10.5	18.5	26.5	22.5
0.015 µF	- 315	10.5	17.5	18.0	15	7.5	15.5	26.5	22.5	10.5	18.5	26.5	22.5
0.018 µF	- 318	7.5	15.5	26.5	22.5	8.5	16.5	26.5	22.5	11.0	21.0	26.5	22.5
0.022 µF	- 322	7.5	15.5	26.5	22.5	8.5	16.5	26.5	22.5	11.0	21.0	26.5	22.5
0.027 µF	- 327	8.5	16.5	26.5	22.5	10.5	18.5	26.5	22.5	11.5	20.5	31.5	27.5
0.033 µF	- 333	10.5	18.5	26.5	22.5	11.5	20.5	31.5	27.5	11.5	20.5	31.5	27.5
0.039 µF	- 339	10.5	18.5	26.5	22.5	11.5	20.5	31.5	27.5	13.5	23.5	31.5	27.5
0.047 µF	- 347	10.5	18.5	26.5	22.5	11.5	20.5	31.5	27.5	13.5	23.5	31.5	27.5
0.056 µF	- 356	11.5	20.5	31.5	27.5	12.5	22.5	41.5	37.5	12.5	23.5	41.5	37.5
0.068 µF	- 368	11.5	20.5	31.5	27.5	12.5	22.5	41.5	37.5	12.5	22.5	41.5	37.5
0.082 µF	- 382	11.5	20.5	31.5	27.5	12.5	22.5	41.5	37.5	14.5	24.5	41.5	37.5
0.1 µF	- 410	13.5	23.5	31.5	27.5	14.5	24.5	41.5	37.5	14.5	24.5	41.5	37.5
0.12 µF	- 412	12.5	22.5	41.5	37.5	14.5	24.5	41.5	37.5	16.0	28.5	41.5	37.5
0.15 µF	- 415	12.5	22.5	41.5	37.5	16.0	28.5	41.5	37.5	16.0	28.5	41.5	37.5
0.18 µF	- 418	14.5	24.5	41.5	37.5	16.0	28.5	41.5	37.5	20.0	40.0	42.5	37.5
0.22 µF	- 422	14.5	24.5	41.5	37.5	18.0	32.5	41.5	37.5	20.0	40.0	42.5	37.5

Further C-values upon request.

RECOMMENDED PACKAGING

LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER (mm)	ORDERING CODE EXAMPLES	PCM 15	PCM 22.5 - 27.5	PCM 37.5
D	AMMO	16.5	S*	KP 1836-168/205-D	X	-	-
G	AMMO	18.5	S*	KP 1836-168/205-G	X	-	-
F	REEL	16.5	350	KP 1836-168/205-F	X	-	-
W	REEL	18.5	350	KP 1836-168/205-W	X	-	-
V	REEL	18.5	500	KP 1836-310/134-V	X	X	-
G	AMMO	18.5	L*	KP 1836-310/134-G	-	X	-
-	BULK	-	-	KP 1836-310/134	X	X	X

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

CAPACITANCE	CAPACITANCE CODE	VOLTAGE CODE 13 1600 VDC/500 VAC				VOLTAGE CODE 20 2000 VDC/600 VAC			
		W	H	L	PCM	W	H	L	PCM
100 pF	- 110	-	-	-	-	5.5	10.5	18.0	15
150 pF	- 115	-	-	-	-	5.5	10.5	18.0	15
220 pF	- 122	-	-	-	-	5.5	10.5	18.0	15
330 pF	- 133	-	-	-	-	5.5	10.5	18.0	15
470 pF	- 147	-	-	-	-	5.5	10.5	18.0	15
680 pF	- 168	5.5	10.5	18.0	15	5.5	10.5	18.0	15
1000 pF	- 210	5.5	10.5	18.0	15	6.5	14.5	26.5	22.5
1200 pF	- 212	6.5	12.5	18.0	15	6.5	14.5	26.5	22.5
1500 pF	- 215	6.5	12.5	18.0	15	6.5	14.5	26.5	22.5
1800 pF	- 218	6.5	14.5	26.5	22.5	6.5	14.5	26.5	22.5
2200 pF	- 222	6.5	14.5	26.5	22.5	6.5	14.5	26.5	22.5
2700 pF	- 227	6.5	14.5	26.5	22.5	7.5	15.5	26.5	22.5
3300 pF	- 233	6.5	14.5	26.5	22.5	7.5	15.5	26.5	22.5
3900 pF	- 239	7.5	15.5	26.5	22.5	10.5	18.5	26.5	22.5
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5600 pF	- 256	8.5	16.5	26.5	22.5	10.5	18.5	26.5	22.5
6800 pF	- 268	8.5	16.5	26.5	22.5	11.5	20.5	31.5	27.5
8200 pF	- 282	10.5	18.5	26.5	22.5	11.5	20.5	31.5	27.5
0.01 µF	- 310	10.5	18.5	26.5	22.5	11.5	20.5	31.5	27.5
0.012 µF	- 312	11.5	20.5	31.5	27.5	13.5	23.5	31.5	27.5
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0.022 µF	- 322	11.5	20.5	31.5	27.5	15.0	24.5	31.5	27.5
0.027 µF	- 327	13.5	23.5	31.5	27.5	14.5	24.5	41.5	37.5
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0.056 µF	- 356	14.5	24.5	41.5	37.5	-	-	-	-
0.068 µF	- 368	14.5	24.5	41.5	37.5	-	-	-	-
0.082 µF	- 382	16.0	28.5	41.5	37.5	-	-	-	-
0.1 µF	- 410	16.0	28.5	41.5	37.5	-	-	-	-
0.12 µF	- 412	-	-	-	-	-	-	-	-
0.15 µF	- 415	-	-	-	-	-	-	-	-
0.18 µF	- 418	-	-	-	-	-	-	-	-
0.22 µF	- 422	-	-	-	-	-	-	-	-

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G	AMMO	18.5	S*	KP 1836-168/205-G	X	-	-
F	REEL	16.5	350	KP 1836-168/205-F	X	-	-
W	REEL	18.5	350	KP 1836-168/205-W	X	-	-
V	REEL	18.5	500	KP 1836-310/134-V	X	X	-
G	AMMO	18.5	L*	KP 1836-310/134-G	-	X	-
-	BULK	-	-	KP 1836-310/134	X	X	X

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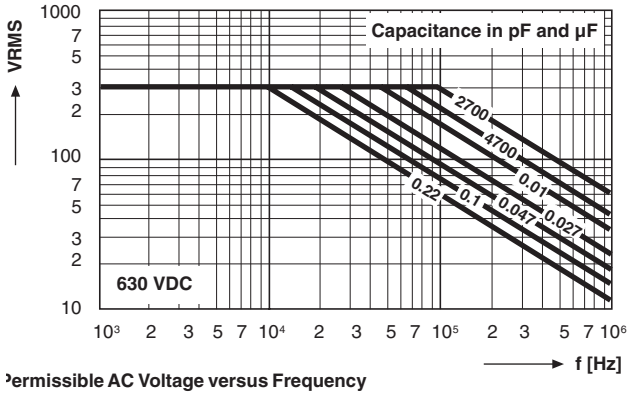
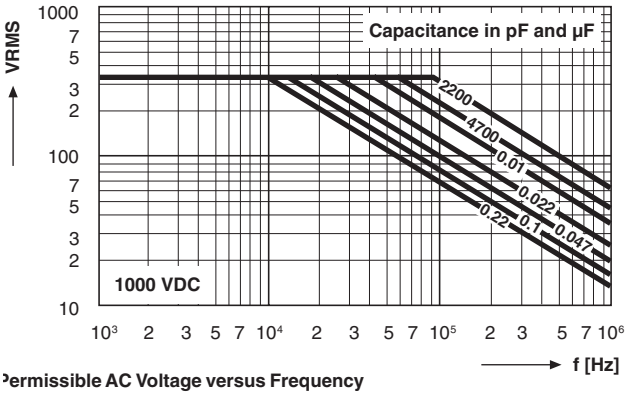
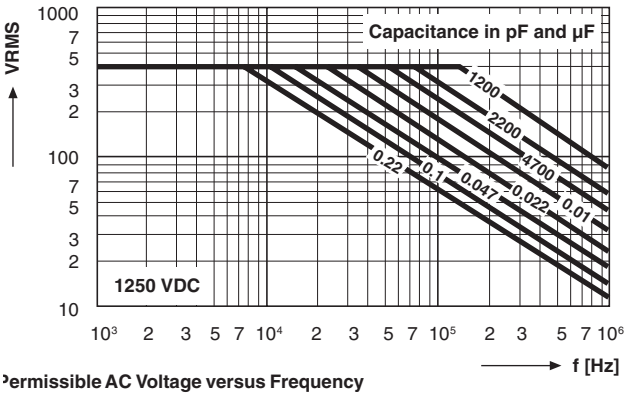


Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency



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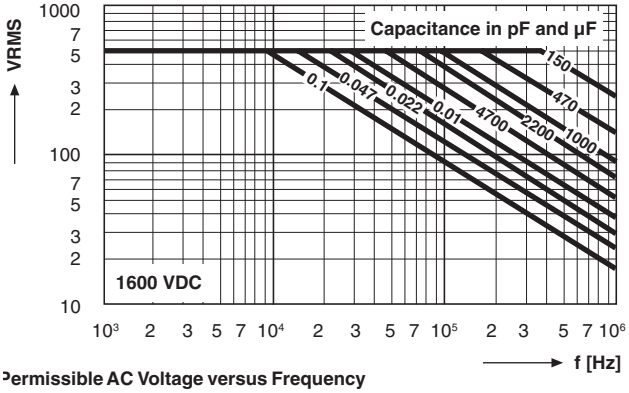
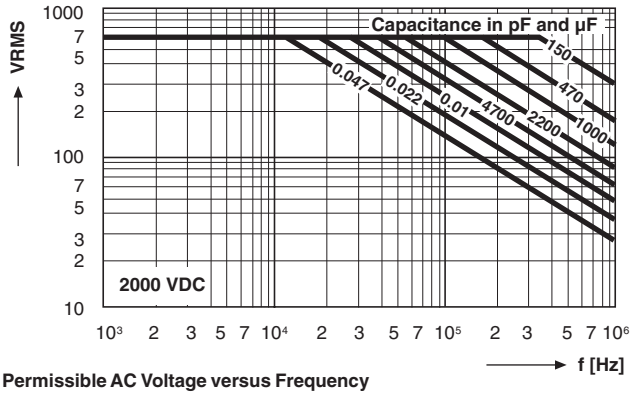


Permissible AC Voltage versus Frequency



Permissible AC Voltage versus Frequency

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