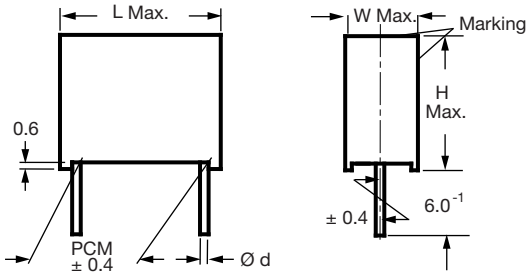
AC and Pulse Film/Foil Capacitors
Radial Potted Type

Dimensions in millimeters



W	Ø d
≥ 16	1.0
< 16.0	0.8

MAIN APPLCATIONS
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), epoxy resin sealed.

COSTRUCTION
Extended aluminum foil, internal series connection, double-sided metallized, polyester carrier film

INSULATION RESISTANCE
Measured at 500 V_{DC} after one minute
100 000 MΩ minimum value, (1000 GΩ typical value)

FEATURES
• Compliant to RoHS directive 2002/95/EC

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
630 V_{DC}, 1000 V_{DC}, 1250 V_{DC}, 1600 V_{DC}, 2000 V_{DC}

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

TEST VOLTAGES (ELECTRODE/ELECTRODE)
2 x U_R 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 UC
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 U_R 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 dV/dt [V/µs]				
	630 V_{DC}	1000 V_{DC}	1250 V_{DC}	1600 V_{DC}	2000 V_{DC}
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

Note
• If the maximum pulse voltage is less than the rated voltage higher dV/dt 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 V_{DC}/300 V_{AC}				VOLTAGE CODE 10 1000 V_{DC}/350 V_{AC}				VOLTAGE CODE 12 1250 V_{DC}/400 V_{AC}			
		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	11.0	21.0	31.0	27.5
0.033 µF	-333	10.5	18.5	26.5	22.5	11.5	20.5	31.5	27.5	11.0	21.0	31.0	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

Note
• 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 to 27.5	PCM 37.5
D	Ammo	16.5	S (1)	KP 1836-168/205-D	X	-	-
G	Ammo	18.5	S (1)	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 (2)	KP 1836-310/134-G	-	X	-
-	Bulk	-	-	KP 1836-310/134	X	X	X

Note

(1) S = box size 55 mm x 210 mm x 340 mm (W x H x L)

(2) L = box size 60 mm x 360 mm x 510 mm (W x H x L)

CAPACITANCE	CAPACITANCE CODE	VOLTAGE CODE 13 1600 V_{DC}/500 V_{AC}				VOLTAGE CODE 20 2000 V_{DC}/600 V_{AC}			
		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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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
0.015 µF	-315	11.5	20.5	31.5	27.5	13.5	23.5	31.5	27.5
0.018 µF	-318	11.5	20.5	31.5	27.5	15.0	24.5	31.5	27.5
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
0.033 µF	-333	13.5	23.5	31.5	27.5	14.5	24.5	41.5	37.5
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0.047 µF	-347	12.5	22.5	41.5	37.5	16.0	28.5	41.5	37.5
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	-	-	-	-	-	-	-	-

Note

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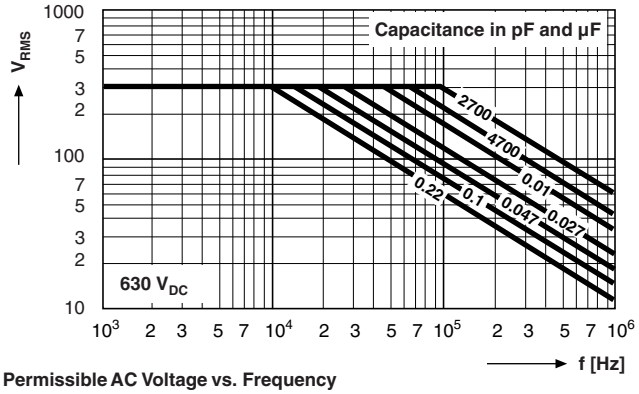
G	Ammo	18.5	S (1)	KP 1836-168/205-G	X	-	-
F	Reel	16.5	350	KP 1836-168/205-F	X	-	-
W	Reel	18.5	350	KP 1836-168/205-W	X	-	-
V	Reel	18.5	500	KP 1836-310/134-V	X	X	-
G	Ammo	18.5	L (2)	KP 1836-310/134-G	-	X	-
-	Bulk	-	-	KP 1836-310/134	X	X	X

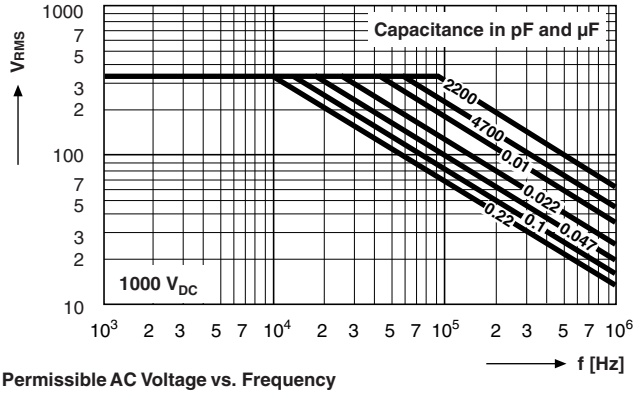
Note

(1) S = box size 55 mm x 210 mm x 340 mm (W x H x L)

(2) L = box size 60 mm x 360 mm x 510 mm (W x H x L)



Permissible AC Voltage vs. Frequency



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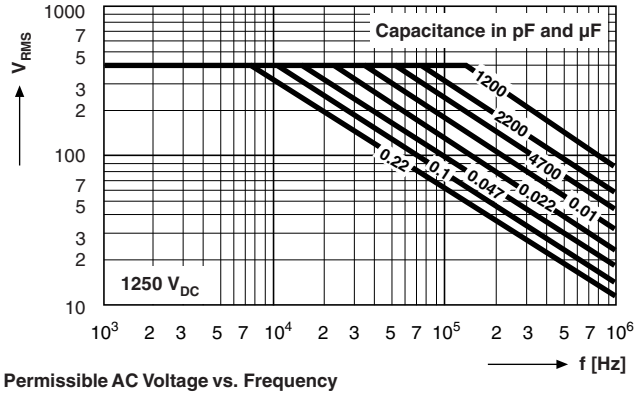

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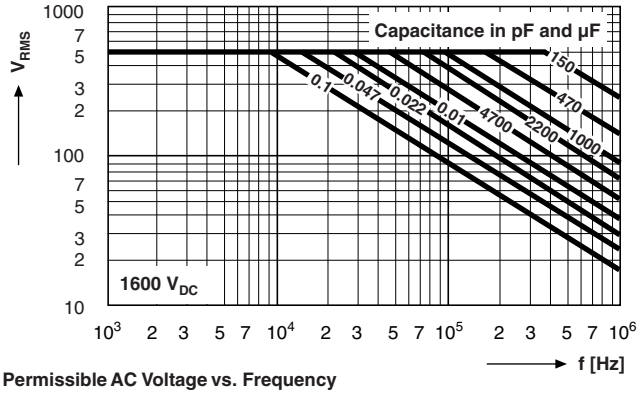
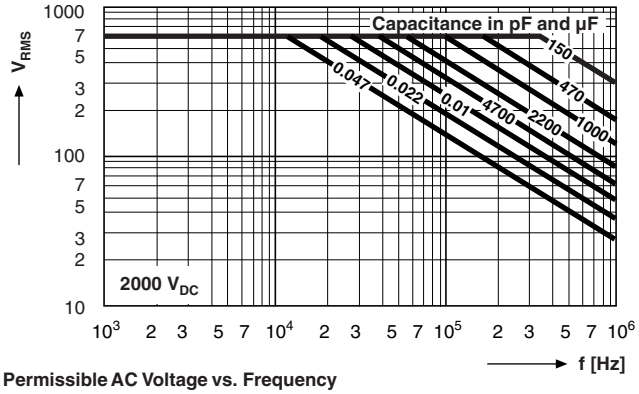


Permissible AC Voltage vs. Frequency



Permissible AC Voltage vs. Frequency

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