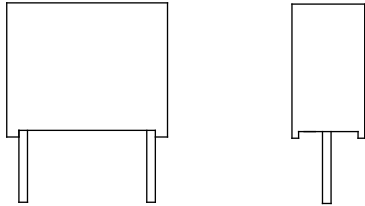


## AC and Pulse Film/Foil Capacitors Radial Potted Type



### FEATURES

- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

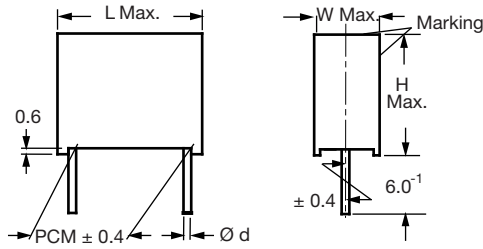
### APPLICATIONS

- 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

QUICK REFERENCE DATA	
Capacitance range	100 pF to 0.22 $\mu$ F
Capacitance tolerances	$\pm 10\%$ (K), $\pm 5\%$ (J)
Climatic testing class according to IEC 60068	55/100/56
Dielectric	Polypropylene film
Electrodes	Aluminum foil
Construction	Extended aluminum foil, internal series connection, double-sided metallized, polyester carrier film
Leads	Tinned wire
Marking	Manufacturer's logo, type, C-value, rated voltage, tolerance, data of manufacture
Coating	Flame retardant plastic case (UL-class 94 V-0), epoxy resin sealed
Insulation resistance	Measured at 500 V <sub>DC</sub> after one minute 100 000 M $\Omega$ minimum value (1000 G $\Omega$ typical value)
Operating temperature range	- 55 °C to + 100 °C
Rated DC voltages	630 V <sub>DC</sub> , 1000 V <sub>DC</sub> , 1250 V <sub>DC</sub> , 1600 V <sub>DC</sub> , 2000 V <sub>DC</sub>
Permissible AC voltages (RMS) up to 60 Hz	300 V <sub>AC</sub> , 350 V <sub>AC</sub> , 400 V <sub>AC</sub> , 500 V <sub>AC</sub> , 600 V <sub>AC</sub>
Test voltages (electrode/electrode)	2 x U <sub>R</sub> for 2 s
Temperature coefficient	- 250 x 10 <sup>-6</sup> /°C (typical value)
Capacitance drift	Up to + 40 °C, $\pm 0.5\%$ 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> = 0.7 U <sub>R</sub>
Self inductance	~ 6 nH measured with 2 mm long leads
Pull test on leads	$\geq 30$ 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 <sub>R</sub> and 40 °C)

#### Note

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

**DIMENSIONS** in millimeters


W	Ø d
≥ 16	1.0
< 16	0.8

**MAXIMUM PULSE RISE TIME**

PCM (mm)	MAXIMUM PULSE RISE TIME dV/dt [V/µs]				
	630 V <sub>DC</sub>	1000 V <sub>DC</sub>	1250 V <sub>DC</sub>	1600 V <sub>DC</sub>	2000 V <sub>DC</sub>
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 <sup>-3</sup>	0.3 x 10 <sup>-3</sup>
10 kHz	0.4 x 10 <sup>-3</sup>	0.4 x 10 <sup>-3</sup>
100 kHz	1 x 10 <sup>-3</sup>	-

Maximum values

**ELECTRICAL DATA**

U <sub>RDC</sub> (V)	CAP. (µF)	CAPACITANCE CODE	VOLTAGE CODE	V <sub>AC</sub>	DIMENSIONS (W x H x L)	PCM
630	0.0027	-227	63	300	5.5 x 10.5 x 18.0	15
	0.0033	-233			5.5 x 10.5 x 18.0	15
	0.0039	-239			6.5 x 12.5 x 18.0	15
	0.0047	-247			6.5 x 12.5 x 18.0	15
	0.0056	-256			7.5 x 13.5 x 18.0	15
	0.0068	-268			7.5 x 13.5 x 18.0	15
	0.0082	-282			8.5 x 14.5 x 18.0	15
	0.010	-310			8.5 x 14.5 x 18.0	15
	0.012	-312			8.5 x 17.5 x 18.0	15
	0.015	-315			10.5 x 17.5 x 18.0	15
	0.018	-318			7.5 x 15.5 x 26.5	22.5
	0.022	-322			7.5 x 15.5 x 26.5	22.5
	0.027	-327			8.5 x 16.5 x 26.5	22.5
	0.033	-333			10.5 x 18.5 x 26.5	22.5
	0.039	-339			10.5 x 18.5 x 26.5	22.5
	0.047	-347			10.5 x 18.5 x 26.5	22.5
	0.056	-356			11.5 x 20.5 x 31.5	27.5
	0.068	-368			11.5 x 20.5 x 31.5	27.5
	0.082	-382			11.5 x 20.5 x 31.5	27.5
	0.10	-410			13.5 x 23.5 x 31.5	27.5
	0.12	-412			12.5 x 22.5 x 41.5	37.5
	0.15	-415			12.5 x 22.5 x 41.5	37.5
0.18	-418	14.5 x 24.5 x 41.5	37.5			
0.22	-422	14.5 x 24.5 x 41.5	37.5			



ELECTRICAL DATA						
U <sub>RDC</sub> (V)	CAP. (μF)	CAPACITANCE CODE	VOLTAGE CODE	V <sub>AC</sub>	DIMENSIONS (W x H x L)	PCM
1000	0.0018	-218	10	350	5.5 x 10.5 x 18.0	15
	0.0022	-222			5.5 x 10.5 x 18.0	15
	0.0027	-227			6.5 x 12.5 x 18.0	15
	0.0033	-233			6.5 x 12.5 x 18.0	15
	0.0039	-239			7.5 x 13.5 x 18.0	15
	0.0047	-247			7.5 x 13.5 x 18.0	15
	0.0056	-256			8.5 x 14.5 x 18.0	15
	0.0068	-268			8.5 x 14.5 x 18.0	15
	0.0082	-282			6.5 x 14.5 x 26.5	22.5
	0.010	-310			6.5 x 14.5 x 26.5	22.5
	0.012	-312			7.5 x 15.5 x 26.5	22.5
	0.015	-315			7.5 x 15.5 x 26.5	22.5
	0.018	-318			8.5 x 16.5 x 26.5	22.5
	0.022	-322			8.5 x 16.5 x 26.5	22.5
	0.027	-327			10.5 x 18.5 x 26.5	22.5
	0.033	-333			11.5 x 20.5 x 31.5	27.5
	0.039	-339			11.5 x 20.5 x 31.5	27.5
	0.047	-347			11.5 x 20.5 x 31.5	27.5
	0.056	-356			12.5 x 22.5 x 41.5	37.5
	0.068	-368			12.5 x 22.5 x 41.5	37.5
	0.082	-382			12.5 x 22.5 x 41.5	37.5
	0.10	-410			14.5 x 24.5 x 41.5	37.5
0.12	-412	14.5 x 24.5 x 41.5	37.5			
0.15	-415	16.0 x 28.5 x 41.5	37.5			
0.18	-418	16.0 x 28.5 x 41.5	37.5			
0.22	-422	18.0 x 32.5 x 41.5	37.5			
1250	0.0012	-212	12	400	5.5 x 10.5 x 18.0	15
	0.0015	-215			5.5 x 10.5 x 18.0	15
	0.0018	-218			6.5 x 12.5 x 18.0	15
	0.0022	-222			6.5 x 12.5 x 18.0	15
	0.0027	-227			7.5 x 13.5 x 18.0	15
	0.0033	-233			7.5 x 13.5 x 18.0	15
	0.0039	-239			6.5 x 14.5 x 26.5	22.5
	0.0047	-247			6.5 x 14.5 x 26.5	22.5
	0.0056	-256			6.5 x 14.5 x 26.5	22.5
	0.0068	-268			6.5 x 14.5 x 26.5	22.5
	0.0082	-282			57.5 x 15.5 x 26.5	22.5
	0.010	-310			7.5 x 15.5 x 26.5	22.5
	0.012	-312			10.5 x 18.5 x 26.5	22.5
	0.015	-315			10.5 x 18.5 x 26.5	22.5
	0.018	-318			11.0 x 21.0 x 26.5	22.5
	0.022	-322			11.0 x 21.0 x 26.5	22.5
	0.027	-327			11.0 x 21.0 x 31.0	27.5
	0.033	-333			11.0 x 21.0 x 31.0	27.5
	0.039	-339			13.5 x 23.5 x 31.5	27.5
	0.047	-347			13.5 x 23.5 x 31.5	27.5
	0.056	-356			12.5 x 23.5 x 41.5	37.5
	0.068	-368			12.5 x 23.5 x 41.5	37.5
0.082	-382	14.5 x 24.5 x 41.5	37.5			
0.10	-410	14.5 x 24.5 x 41.5	37.5			
0.12	-412	16.0 x 28.5 x 41.5	37.5			
0.15	-415	16.0 x 28.5 x 41.5	37.5			
0.18	-418	20.0 x 40.0 x 42.5	37.5			
0.22	-422	20.0 x 40.0 x 42.5	37.5			



ELECTRICAL DATA						
U <sub>RDC</sub> (V)	CAP. (μF)	CAPACITANCE CODE	VOLTAGE CODE	V <sub>AC</sub>	DIMENSIONS (W x H x L)	PCM
1600	0.00068	-168	13	500	5.5 x 10.5 x 18.0	15
	0.0010	-210			5.5 x 10.5 x 18.0	15
	0.0012	-212			6.5 x 12.5 x 18.0	15
	0.0015	-215			6.5 x 12.5 x 18.0	15
	0.0018	-218			6.5 x 14.5 x 26.5	22.5
	0.0022	-222			6.5 x 14.5 x 26.5	22.5
	0.0027	-227			6.5 x 14.5 x 26.5	22.5
	0.0033	-233			6.5 x 14.5 x 26.5	22.5
	0.0039	-239			7.5 x 15.5 x 26.5	22.5
	0.0047	-247			7.5 x 15.5 x 26.5	22.5
	0.0056	-256			8.5 x 16.5 x 26.5	22.5
	0.0068	-268			8.5 x 16.5 x 26.5	22.5
	0.0082	-282			10.5 x 18.5 x 26.5	22.5
	0.010	-310			10.5 x 18.5 x 26.5	22.5
	0.012	-312			11.5 x 20.5 x 31.5	27.5
	0.015	-315			11.5 x 20.5 x 31.5	27.5
	0.018	-318			11.5 x 20.5 x 31.5	27.5
	0.022	-322			11.5 x 20.5 x 31.5	27.5
	0.027	-327			13.5 x 23.5 x 31.5	27.5
	0.033	-333			13.5 x 23.5 x 31.5	27.5
0.039	-339	12.5 x 22.5 x 41.5	37.5			
0.047	-347	12.5 x 22.5 x 41.5	37.5			
0.056	-356	14.5 x 24.5 x 41.5	37.5			
0.068	-368	14.5 x 24.5 x 41.5	37.5			
0.082	-382	16.0 x 28.5 x 41.5	37.5			
0.10	-410	16.0 x 28.5 x 41.5	37.5			
2000	0.00010	-110	20	600	5.5 x 10.5 x 18.0	15
	0.00015	-115			5.5 x 10.5 x 18.0	15
	0.00022	-122			5.5 x 10.5 x 18.0	15
	0.00033	-133			5.5 x 10.5 x 18.0	15
	0.00047	-147			5.5 x 10.5 x 18.0	15
	0.00068	-168			5.5 x 10.5 x 18.0	15
	0.0010	-210			6.5 x 14.5 x 26.5	22.5
	0.0012	-212			6.5 x 14.5 x 26.5	22.5
	0.0015	-215			6.5 x 14.5 x 26.5	22.5
	0.0018	-218			6.5 x 14.5 x 26.5	22.5
	0.0022	-222			6.5 x 14.5 x 26.5	22.5
	0.0027	-227			7.5 x 15.5 x 26.5	22.5
	0.0033	-233			7.5 x 15.5 x 26.5	22.5
	0.0039	-239			10.5 x 18.5 x 26.5	22.5
	0.0047	-247			10.5 x 18.5 x 26.5	22.5
	0.0056	-256			10.5 x 18.5 x 26.5	22.5
	0.0068	-268			11.5 x 20.5 x 31.5	27.5
	0.0082	-282			11.5 x 20.5 x 31.5	27.5
	0.010	-310			11.5 x 20.5 x 31.5	27.5
	0.012	-312			13.5 x 23.5 x 31.5	27.5
0.015	-315	13.5 x 23.5 x 31.5	27.5			
0.018	-318	15.0 x 24.5 x 31.5	27.5			
0.022	-322	15.0 x 24.5 x 31.5	27.5			
0.027	-327	14.5 x 24.5 x 41.5	37.5			
0.033	-333	14.5 x 24.5 x 41.5	37.5			
0.039	-339	16.0 x 28.5 x 41.5	37.5			
0.047	-347	16.0 x 28.5 x 41.5	37.5			

**Note**

- Further C-values upon request.

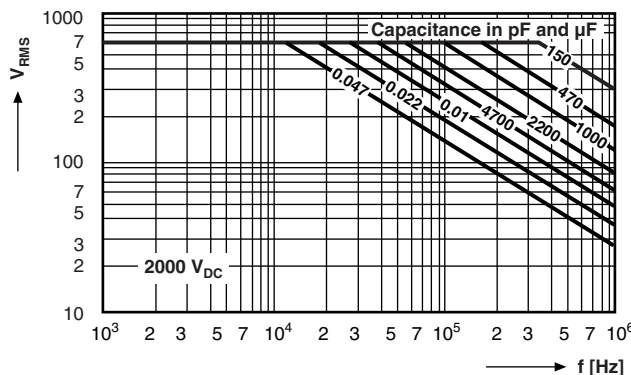
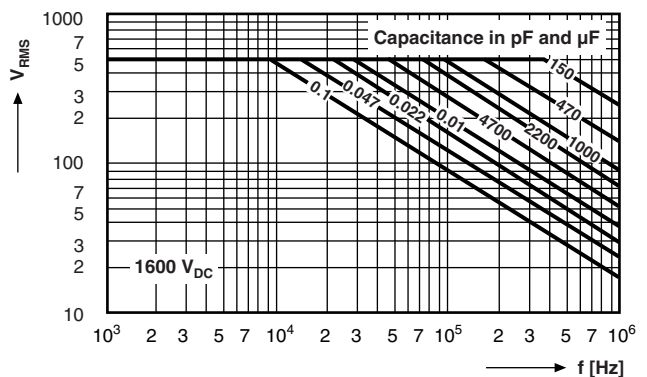
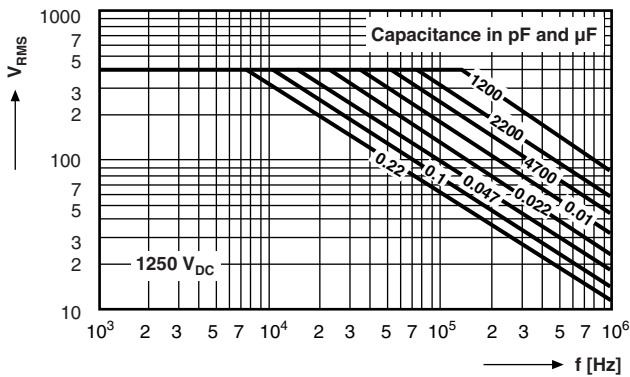
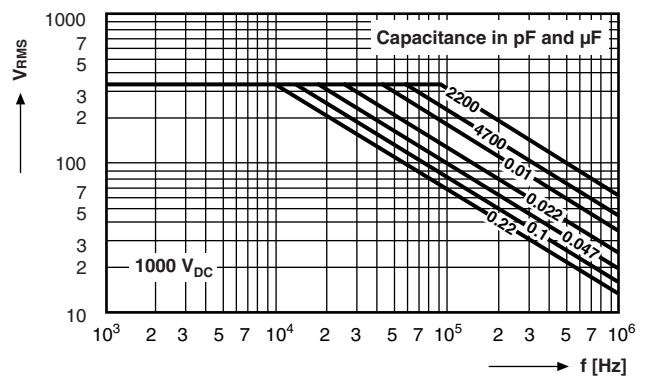
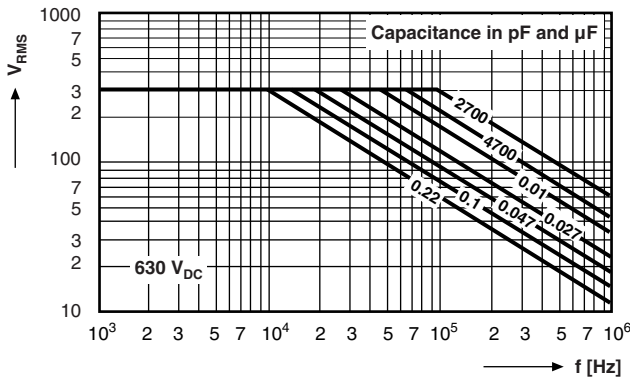
RECOMMENDED PACKAGING							
LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER (mm)	ORDERING CODE EXAMPLES	PCM 15	PCM 22.5 TO 27.5	PCM 37.5
D	Ammo	16.5	S <sup>(1)</sup>	KP1836-168/205-D	x	-	-
G	Ammo	18.5	S <sup>(1)</sup>	KP1836-168/205-G	x	-	-
F	Reel	16.5	350	KP1836-168/205-F	x	-	-
W	Reel	18.5	350	KP1836-168/205-W	x	-	-
V	Reel	18.5	500	KP1836-310/134-V	x	x	-
G	Ammo	18.5	L <sup>(2)</sup>	KP1836-310/134-G	-	x	-
-	Bulk	-	-	KP1836-310/134	x	x	x

**Notes**

<sup>(1)</sup> S = Box size 55 mm x 210 mm x 340 mm (W x H x L)

<sup>(2)</sup> 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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