

Metallized Polyester Film Capacitors MKT Radial Type



FEATURES

- 10.0 mm to 27.5 mm lead pitch
- Self-healing properties
- Flame retardant case
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

APPLICATIONS

Blocking, bypassing, filtering, timing, coupling and decoupling circuits, interference suppression in low voltage applications.

QUICK REFERENCE DATA	
Capacitance range (E12 series)	1000 pF to 15 μF (preferred values according to E6)
Capacitance tolerance	± 20 % (M), ± 10 % (K), ± 5 % (J) (on request)
Climatic testing class according to IEC 60068	55/100/56
Reference standards	IEC 60384-2
Dielectric	Polyester film
Electrodes	Vacuum deposited aluminum
Construction	Extended metallized film
Encapsulation	Flame retardant plastic case UL-class 94 V-0
Leads	Tinned wire
Marking	Manufacturer's logo; type; C-value; rated voltage; tolerance; date of manufacture
Temperature range	-55 °C to +100 °C
Rated DC voltage	63 V _{DC} , 100 V _{DC} , 250 V _{DC} , 400 V _{DC} , 630 V _{DC} , 1000 V _{DC}
Permissible AC voltages (RMS) up to 60 Hz	40 V _{AC} , 63 V _{AC} , 160 V _{AC} , 200 V _{AC} , 220 V _{AC}
Capacitance drift	Up to +40 °C, ± 1.5 % 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 = 0.8 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

Note

- For more detailed data and test requirements, contact dc-film@vishay.com

DIMENSIONS in millimeters

COMPOSITION OF CATALOG NUMBER

Note

- For detailed tape specifications refer to packaging information www.vishay.com/docs?28139 or "Recommended Packaging" table

SPECIFIC REFERENCE DATA						
DESCRIPTION				MAX. VALUE		
Tangent of loss angle: C ≤ 0.1 μF 0.1 μF < C ≤ 1.0 μF C > 1.0 μF				at 1 kHz	at 10 kHz	at 100 kHz
				8 x 10 ⁻³	15 x 10 ⁻³	25 x 10 ⁻³
				8 x 10 ⁻³	15 x 10 ⁻³	-
10 x 10 ⁻³				-	-	-
PCM (mm)	MAXIMUM PULSE RISE TIME (dV/dt) [V/μs]					
	63 V _{DC}	100 V _{DC}	250 V _{DC}	400 V _{DC}	630 V _{DC}	1000 V _{DC}
10	11	13	22	37	60	130
15	7	8	13	21	33	65
22.5	4	5	8	13	19	34
27.5	3	4	6	10	14	25
If the maximum pulse voltage is less than the rated voltage higher dV/dt values can be permitted.						
R between leads, for C ≤ 0.33 μF and U _R ≤ 100 V					> 15 000 MΩ	
R between leads, for C ≤ 0.33 μF and U _R > 100 V					> 30 000 MΩ	
RC between leads, for C > 0.33 μF and U _R ≤ 100 V					> 5000 s	
RC between leads, for C > 0.33 μF and U _R > 100 V					> 10 000 s	
R between leads and case, 100 V; (foil method)					> 30 000 MΩ	
Withstanding (DC) voltage (cut off current 10 mA); rise time < 1000 V/s					1.6 x U _{RDC} , 1 min	
Withstanding (DC) voltage between leads and case					2 x U _{RDC} , 1 min	
Maximum application temperature					100 °C	



ELECTRICAL DATA						
U _{RDC} (V)	CAP. (μF)	CAPACITANCE CODE	VOLTAGE CODE	V _{AC}	DIMENSIONS W x H x L	PCM
63	0.22	-422	06	40	4.0 x 9.0 x 13.0	10
	0.33	-433			4.0 x 9.0 x 13.0	10
	0.47	-447			5.5 x 10.5 x 13.0	10
	0.68	-468			5.5 x 10.5 x 18.0	15
	1.0	-510			5.5 x 10.5 x 18.0	15
	1.5	-515			6.5 x 12.5 x 18.0	15
	2.2	-522			7.5 x 13.5 x 18.0	15
	3.3	-533			7.5 x 15.5 x 26.5	22.5
	4.7	-547			8.5 x 16.5 x 26.5	22.5
	6.8	-568			10.5 x 18.5 x 26.5	22.5
	10.0	-610			11.5 x 20.5 x 31.5	27.5
	15.0	-615			13.5 x 23.5 x 31.5	27.5
100	0.068	-368	01	63	4.0 x 9.0 x 13.0	10
	0.10	-410			4.0 x 9.0 x 13.0	10
	0.15	-415			4.0 x 9.0 x 13.0	10
	0.22	-422			4.5 x 9.5 x 13.0	10
	0.33	-433			5.5 x 10.5 x 18.0	15
	0.47	-447			5.5 x 10.5 x 18.0	15
	0.68	-468			6.5 x 12.5 x 18.0	15
	1.0	-510			7.5 x 13.5 x 18.0	15
	1.5	-515			7.5 x 15.5 x 26.5	22.5
	2.2	-522			8.5 x 16.5 x 26.5	22.5
	3.3	-533			10.5 x 18.5 x 26.5	22.5
	4.7	-547			11.5 x 20.5 x 31.5	27.5
	6.8	-568			13.5 x 23.5 x 31.5	27.5
	10.0	-610			15.0 x 24.5 x 31.5	27.5
15.0	-615	16.5 x 29.5 x 31.5	27.5			
250	0.033	-333	25	160	4.0 x 9.0 x 13.0	10
	0.047	-347			4.0 x 9.0 x 13.0	10
	0.068	-368			4.5 x 9.5 x 13.0	10
	0.10	-410			5.5 x 10.5 x 18.0	15
	0.15	-415			5.5 x 10.5 x 18.0	15
	0.22	-422			5.5 x 10.5 x 18.0	15
	0.33	-433			6.5 x 12.5 x 18.0	15
	0.47	-447			6.5 x 14.5 x 26.5	22.5
	0.68	-468			7.5 x 15.5 x 26.5	22.5
	1.0	-510			8.5 x 16.5 x 26.5	22.5
	1.5	-515			9.0 x 18.5 x 31.5	27.5
	2.2	-522			11.5 x 20.5 x 31.5	27.5
	3.3	-533			13.5 x 23.5 x 31.5	27.5
	400	0.0010			-210	40
0.0015		-215	4.0 x 9.0 x 13.0	10		
0.0022		-222	4.0 x 9.0 x 13.0	10		
0.0033		-233	4.0 x 9.0 x 13.0	10		
0.0047		-247	4.0 x 9.0 x 13.0	10		
0.0068		-268	4.0 x 9.0 x 13.0	10		
0.010		-310	4.0 x 9.0 x 13.0	10		
0.015		-315	4.0 x 9.0 x 13.0	10		
0.022		-322	4.0 x 9.0 x 13.0	10		
0.033		-333	4.0 x 9.0 x 13.0	10		
0.047		-347	5.5 x 10.5 x 18.0	15		
0.068		-368	5.5 x 10.5 x 18.0	15		
0.10		-410	5.5 x 10.5 x 18.0	15		
0.15		-415	6.5 x 12.5 x 18.0	15		
0.22		-422	7.5 x 15.5 x 26.5	22.5		
0.33		-433	8.5 x 16.5 x 26.5	22.5		
0.47		-447	10.5 x 18.5 x 26.5	22.5		
0.68		-468	11.5 x 20.5 x 31.5	27.5		
1.0		-510	11.5 x 20.5 x 31.5	27.5		
1.5		-515	13.5 x 23.5 x 31.5	27.5		



ELECTRICAL DATA						
U _{RDC} (V)	CAP. (µF)	CAPACITANCE CODE	VOLTAGE CODE	V _{AC}	DIMENSIONS W x H x L	PCM
630	0.0010	-210	63 ⁽¹⁾	220	4.0 x 9.0 x 13.0	10
	0.0015	-215			4.0 x 9.0 x 13.0	10
	0.0022	-222			4.0 x 9.0 x 13.0	10
	0.0033	-233			4.0 x 9.0 x 13.0	10
	0.0047	-247			4.0 x 9.0 x 13.0	10
	0.0068	-268			4.0 x 9.0 x 13.0	10
	0.010	-310			4.0 x 9.0 x 13.0	10
	0.015	-315			5.5 x 10.5 x 13.0	10
	0.022	-322			6.5 x 11.5 x 13.0	10
	0.033	-333			5.5 x 10.5 x 18.0	15
	0.047	-347			6.5 x 12.5 x 18.0	15
	0.068	-368			7.5 x 13.5 x 18.0	15
	0.10	-410			6.5 x 14.5 x 26.5	22.5
	0.15	-415			7.5 x 15.5 x 26.5	22.5
	0.22	-422			8.5 x 16.5 x 26.5	22.5
	0.33	-433			11.5 x 20.5 x 31.5	27.5
	0.47	-447			11.5 x 20.5 x 31.5	27.5
	0.68	-468			13.5 x 23.5 x 31.5	27.5
1.0	-510	15.0 x 24.5 x 31.5	27.5			
1000	0.0010	-210	10 ⁽¹⁾	220	4.0 x 9.0 x 13.0	10
	0.0015	-215			4.0 x 9.0 x 13.0	10
	0.0022	-222			4.0 x 9.0 x 13.0	10
	0.0033	-233			4.0 x 9.0 x 13.0	10
	0.0047	-247			5.5 x 10.5 x 13.0	10
	0.0068	-268			6.5 x 11.5 x 13.0	10
	0.010	-310			5.5 x 10.5 x 18.0	15
	0.015	-315			6.5 x 12.5 x 18.0	15
	0.022	-322			7.5 x 13.5 x 18.0	15
	0.033	-333			6.5 x 14.5 x 26.5	22.5
	0.047	-347			7.5 x 15.5 x 26.5	22.5
	0.068	-368			8.5 x 16.5 x 26.5	22.5
	0.10	-410			10.5 x 18.5 x 26.5	22.5
	0.15	-415			11.5 x 20.5 x 31.5	27.5
	0.22	-422			13.5 x 23.5 x 31.5	27.5
	0.33	-433			16.5 x 29.5 x 31.5	27.5
	0.47	-447			20.0 x 35.0 x 31.5	27.5

Note

⁽¹⁾ Not suitable for mains applications.

RECOMMENDED PACKAGING							
LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER (mm)	ORDERING CODE EXAMPLES	PCM 10	PCM 15	PCM 22.5 TO 27.5
D	Ammo	16.5	S ⁽¹⁾	MKT1822-422-065-D	X	X	-
G	Ammo	18.5	S ⁽¹⁾	MKT1822-422-065-G	X	X	-
F	Reel	16.5	350	MKT1822-422-065-F	X	X	-
W	Reel	18.5	350	MKT1822-422-065-W	X	X	-
V	Reel	18.5	500	MKT1822-510-255-V	-	X	X
G	Ammo	18.5	L ⁽²⁾	MKT1822-510-255-G	-	-	X
-	Bulk	-	-	MKT1822-510-255	X	X	X
-	Bulk	-	-	MKT1822-522-255	X	-	X

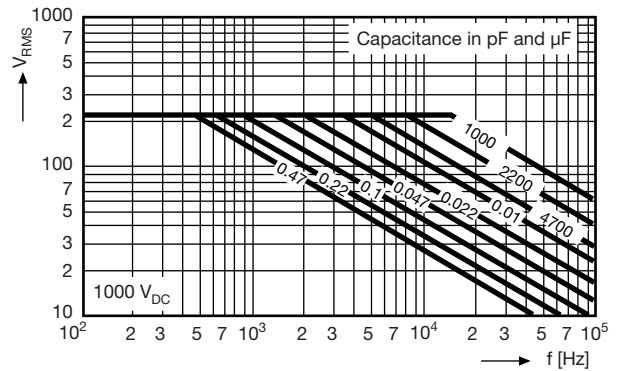
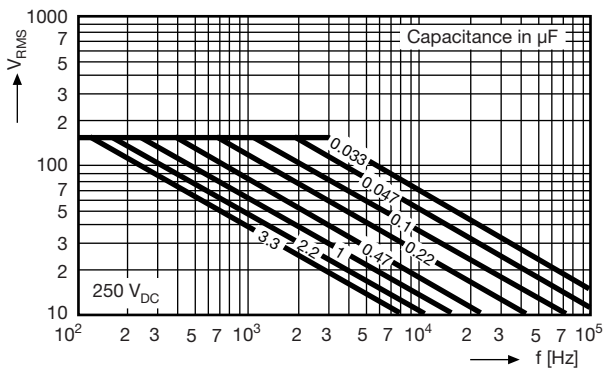
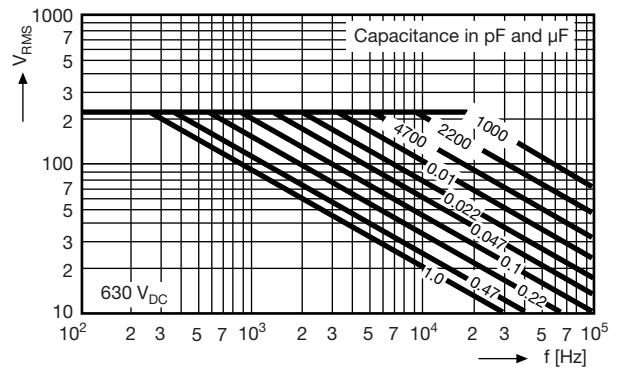
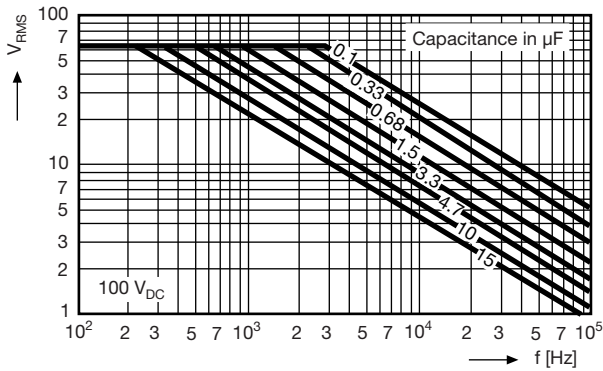
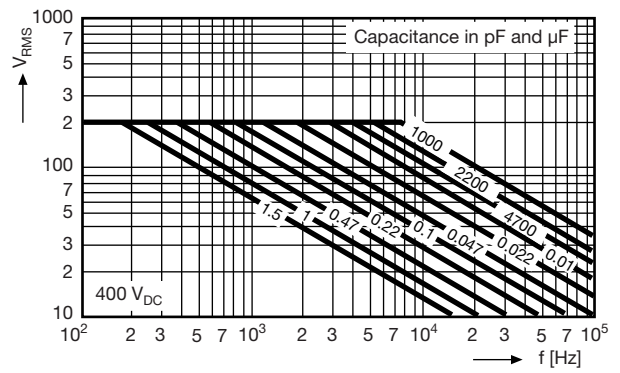
Notes

⁽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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