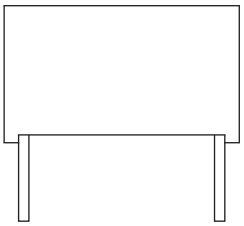
Metallized Polyester Film Capacitors
MKT Radial Type



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

Pb-free
RoHS COMPLIANT
HALOGEN FREE
GREEN (5-2008)

APPLICATIONS

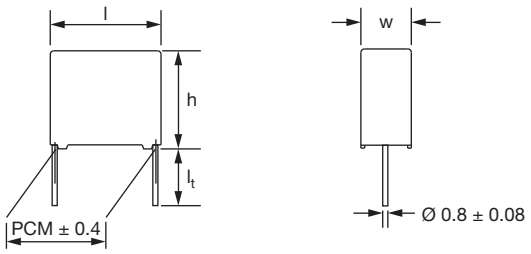
Blocking, bypassing, filtering, timing, coupling and decoupling circuits, interference suppression in low voltage applications.

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

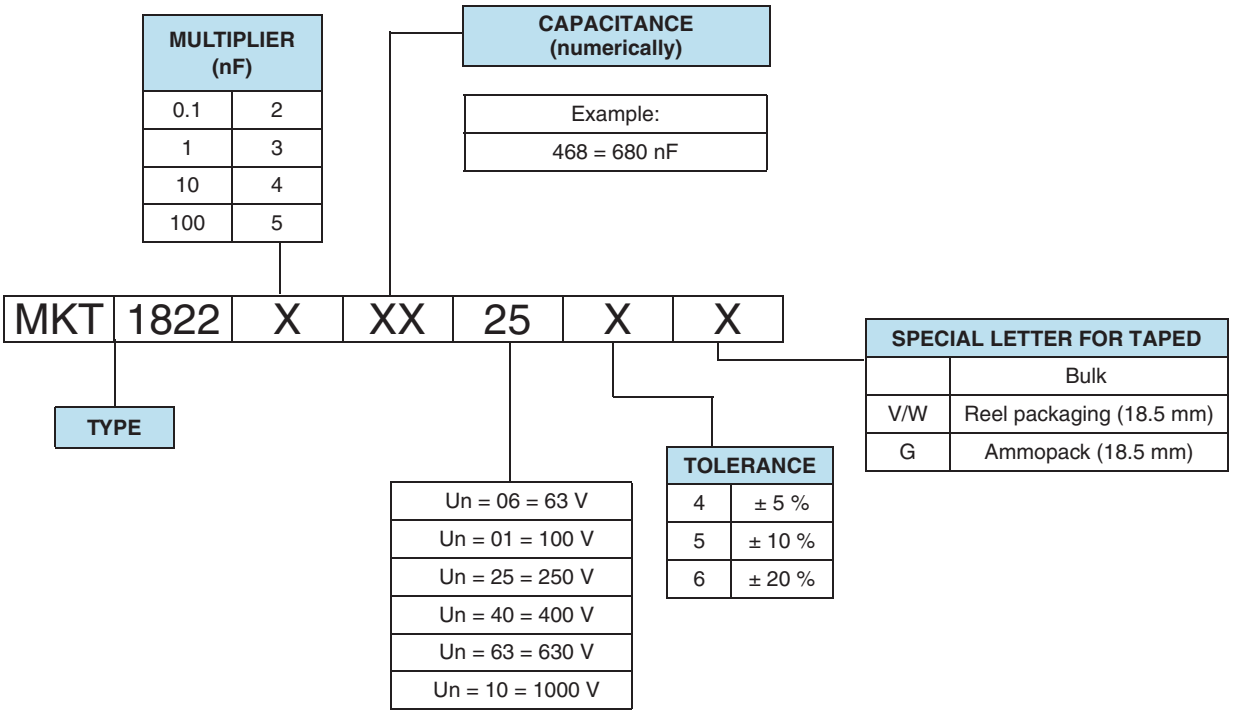
Note

- 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/doc?28139 or “Recommended Packaging” table

SPECIFIC REFERENCE DATA						
DESCRIPTION				**MAX. VALUE**		
Tangent of loss angle:				at 1 kHz	at 10 kHz	at 100 kHz
C ≤ 0.1 µF				8×10^{-3}	15×10^{-3}	25×10^{-3}
0.1 µF < C ≤ 1.0 µF				8×10^{-3}	15×10^{-3}	-
C > 1.0 µF				10×10^{-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	200	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			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

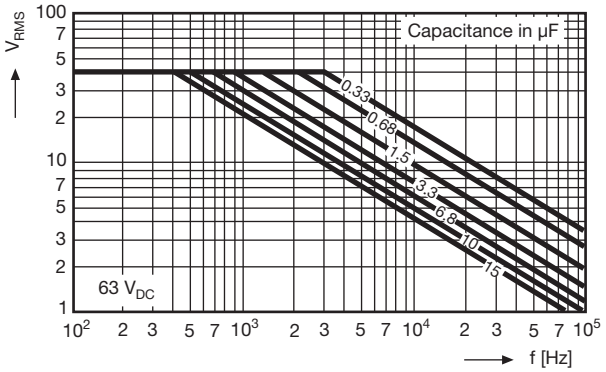
LETTER CODE	TYPE OF PACKAGING	HEIGHT (H) (mm)	REEL DIAMETER (mm)	ORDERING CODE EXAMPLES	PCM 10	PCM 15	PCM 22.5 TO 27.5
G	Ammo	18.5	S (1)	MKT1822-422-065-G	X	X	-
W	Reel	18.5	350	MKT1822-422-065-W	X	X	-
V	Reel	18.5	500	MKT1822-510-255-V	-	X	X
G	Ammo	18.5	L (2)	MKT1822-510-255-G	-	-	X
-	Bulk	-	-	MKT1822-510-255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

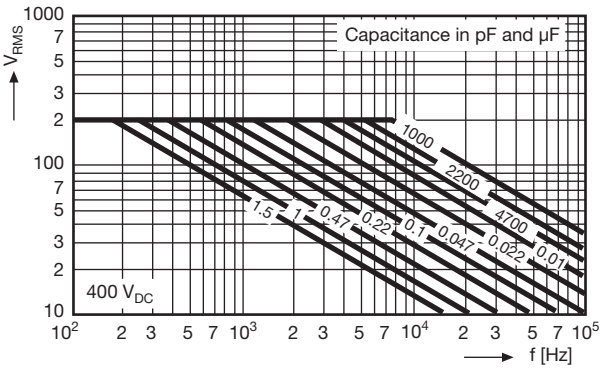
Notes

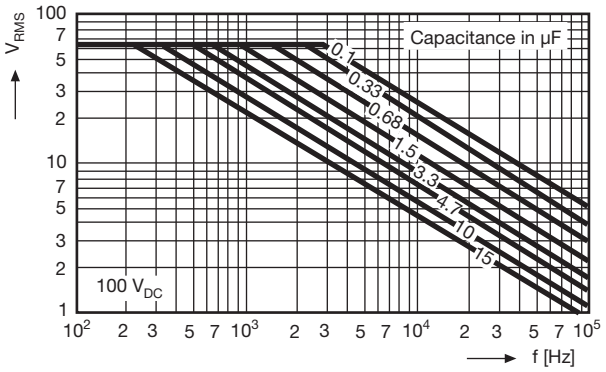
(1) S = Box size 55 mm x 210 mm x 340 mm (W x H x L)

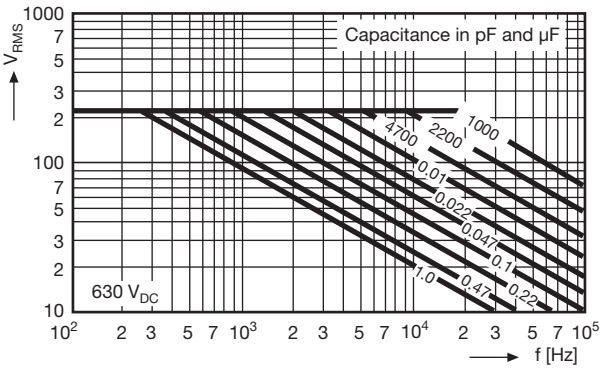
(2) L = Box size 60 mm x 360 mm x 510 mm (W x H x L)

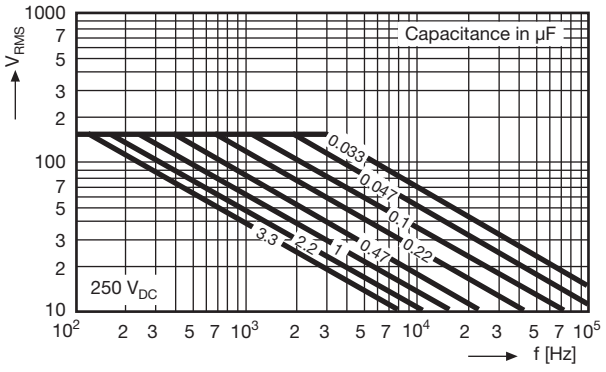
PERMISSIBLE AC VOLTAGE VS. FREQUENCY

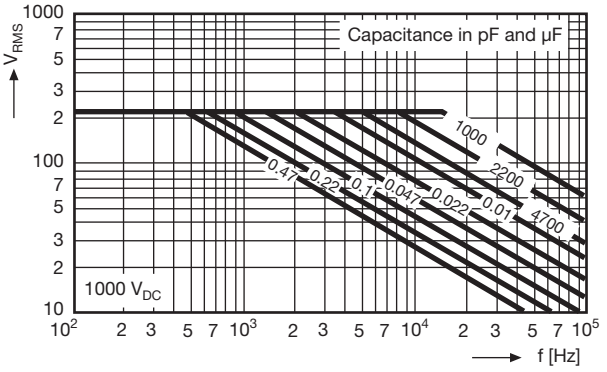












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