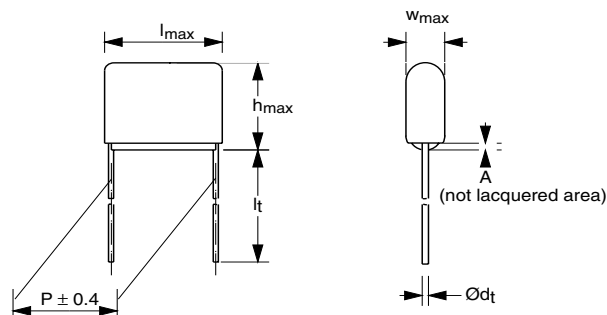


Metallized Polyester Film Capacitors MKT Radial Epoxy Partly Lacquered Type



Dimensions in mm

APPLICATIONS

Blocking, coupling and decoupling. Bypass and energy reservoir

MARKING

C-value; rated voltage; tolerance

LEADS

Tinned wire

CAPACITANCE RANGE (E12 SERIES)

0.01 to 10 μ F

CAPACITANCE TOLERANCE

$\pm 10 \%$; $\pm 5 \%$

RATED (DC) VOLTAGE

250 V; 400 V; 630 V

RATED (AC) VOLTAGE

63 V; 100 V; 160 V

CLIMATIC CATEGORY

55/105/56

FEATURES

Partly lacquered product. Pitch 10 to 27.5 mm available loose in box.

Lead (Pb)-free product
RoHS-compliant product

DIELECTRIC

Polyester film

ELECTRODES

Vacuum deposited aluminum

COATING

Flame retardant epoxy material (UL-class 94 V-0)

CONSTRUCTION

Wound mono construction

RATED TEMPERATURE

85 °C

MAXIMUM APPLICATION TEMPERATURE

105 °C

REFERENCE SPECIFICATIONS

IEC 60384-2

PERFORMANCE GRADE

Grade 1 (long life)

DETAIL SPECIFICATION

For more detailed data and test requirements contact:
filmcaps.roeselare@vishay.com



RoHS
COMPLIANT

COMPOSITION OF CATALOG NUMBER

TYPE AND PITCHES

303

10.0 mm

15.0 mm

22.5 mm

27.5 mm

CAPACITANCE
(numerically)

2222

303

XX

XX

X

BFC2*

303

XX

XX

X

MULTIPLIER
(nF)

1

3

10

4

100

5

Example:
104 = 10 x 10 = 100 nF

* Use this partnumber for those with access to the Vishay's SAP system and Partners website within the Americas

TYPE	PACKAGING	LEAD CONFIGURATION	PREFERRED			
			C-TOL	250 V	400 V	630 V
303	loose in box	straight leads 3.5 mm	± 10 %	41	51	61
			± 5 %	42	52	62
			ON REQUEST			
303	loose in box	straight long leads	± 10 %	43	53	63
			± 5 %	44	54	64
			ON REQUEST (ALTERNATIVE DIMENSIONS)			
303	loose in box	straight lead 3.5 mm	± 10 %	45	55	65
			± 5 %	46	56	66
		straight long leads	± 10 %	47	57	67
			± 5 %	48	58	68

SPECIFIC REFERENCE DATA

DESCRIPTION	VALUE		
Tangent of loss angle: C ≤ 0.47 μF C > 0.47 μF	at 1 kHz	at 10 kHz	at 100 kHz
	≤ 75 × 10 ⁻⁴	≤ 120 × 10 ⁻⁴	≤ 225 × 10 ⁻⁴
	≤ 75 × 10 ⁻⁴	≤ 120 × 10 ⁻⁴	–
Rated voltage pulse slope (dU/dt) _R : I _{max} = 12.5 mm I _{max} = 17.5 mm I _{max} = 26.0 mm I _{max} = 30.0 mm	at 250 V (DC)	at 400 V (DC)	at 630 V (DC)
	18 V/μs	45 V/μs	137 V/μs
	6 V/μs	15 V/μs	44 V/μs
	2 V/μs	6 V/μs	17 V/μs
	2 V/μs	4 V/μs	12 V/μs
R between leads, for C ≤ 0.33 μF at 100 V; 1 minute	> 30000 MΩ		
RC between leads, for C > 0.33 μF at 100 V; 1 minute	> 10000 s		
R between interconnecting leads and casing; 100 V; 1 minute	> 30000 MΩ		
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	400 V; 1 minute	640 V; 1 minute	1008 V; 1 minute
Withstanding (DC) voltage between leads and case	500 V; 1 minute	800 V; 1 minute	1260 V; 1 minute

Metallized Polyester Film Capacitors Vishay BCcomponents
MKT Radial Epoxy Partly Lacquered Type $U_{Rdc} = 250 \text{ V}$; $U_{Rac} = 63 \text{ V}$

C ⁽²⁾ (μF)	DIMENSIONS W _{max} × H _{max} × L _{max} (mm)	MASS (g)	CATALOG NUMBER 2222 303 AND PACKAGING					
			LOOSE IN BOX					
			lt = 3.5 ± 0.5 mm			long leads ⁽¹⁾		
			C-tol = ± 10 %	C-tol = ± 5 %	SPQ	C-tol = ± 10 %	C-tol = ± 5 %	SPQ
			last 5 digits of catalog number	last 5 digits of catalog number		last 5 digits of catalog number	last 5 digits of catalog number	
Pitch = 10.0 ± 0.4 mm; d _t = 0.60 ± 0.06 mm; A ≤ 3.5 mm								
0.1	4.7 × 9.4 × 12.5	0.5	41104	42104	2000	43104	44104	1000
0.12	4.3 × 9.1 × 12.5	0.4	41124	42124	2000	43124	44124	1250
0.15	4.8 × 9.5 × 12.5	0.5	41154	42154	2000	43154	44154	1000
0.18	5.2 × 9.9 × 12.5	0.6	41184	42184	2000	43184	44184	1000
0.22	4.5 × 9.3 × 12.5	0.5	41224	42224	2000	43224	44224	1000
0.27	5.0 × 9.7 × 12.5	0.5	41274	42274	2000	43274	44274	1000
0.33	4.6 × 9.3 × 12.5	0.5	41334	42334	2000	43334	44334	1000
0.39	4.9 × 9.6 × 12.5	0.5	41394	42394	2000	43394	44394	1000
0.47	5.4 × 10.1 × 12.5	0.6	41474	42474	2000	43474	44474	900
0.56	5.8 × 10.5 × 12.5	0.7	41564	42564	2000	43564	44564	900
Pitch = 15.0 ± 0.4 mm; d _t = 0.80 ± 0.08 mm; A ≤ 4.0 mm								
0.39	5.8 × 10.5 × 17.5	0.9	45394	46394	1500	47394	48394	900
0.47	6.4 × 11.1 × 17.5	1.1	45474	46474	1500	47474	48474	800
0.56	5.5 × 10.2 × 17.5	0.9	45564	46564	2000	47564	48564	900
0.68	6.0 × 10.7 × 17.5	1.0	41684	42684	1500	43684	44684	800
0.82	5.4 × 10.2 × 17.5	0.8	41824	42824	2000	43824	44824	1000
1.0	6.0 × 10.7 × 17.5	1.0	41105	42105	1500	43105	44105	800
1.2	6.5 × 11.2 × 17.5	1.1	41125	42125	1500	43125	44125	750
1.5	7.3 × 12.0 × 17.5	1.3	41155	42155	1250	43155	44155	650
1.8	7.9 × 12.7 × 17.5	1.5	41185	42185	1250	43185	44185	600
Pitch = 22.5 ± 0.4 mm; d _t = 0.80 ± 0.08 mm; A ≤ 4.0 mm								
1.8	8.7 × 16.5 × 26.0	3.3	45185	46185	800	47185	48185	500
2.2	9.7 × 17.5 × 26.0	3.8	41225	42225	700	43225	44225	500
2.7	8.3 × 16.1 × 26.0	3.0	41275	42275	900	43275	44275	600
3.3	9.2 × 17.1 × 26.0	3.6	41335	42335	750	43335	44335	500
3.9	8.2 × 16.0 × 26.0	3.0	41395	42395	900	43395	44395	600
4.7	9.0 × 16.9 × 26.0	3.4	41475	42475	750	43475	44475	500
5.6	9.9 × 17.7 × 26.0	4.0	41565	42565	600	43565	44565	500
Pitch = 27.5 ± 0.4 mm; d _t = 0.80 ± 0.08 mm; A ≤ 6.0 mm								
5.6	9.0 × 16.9 × 30.0	4.0	45565	46565	600	47565	48565	500
6.8	10.0 × 17.9 × 30.0	4.7	41685	42685	500	43685	44685	400
8.2	11.1 × 18.9 × 30.0	5.5	41825	42825	500	43825	44825	300
10.0	12.3 × 20.2 × 30.0	6.5	41106	42106	400	43106	44106	300

Notes

- Length of long leads:
 - $l_t = 19.0 \pm 4.0 \text{ mm}$ for pitch = 10 and 15.0 mm.
 - $l_t = 25.0 \pm 4.0 \text{ mm}$ for pitch = 22.5 mm.
 - $l_t = 24.0 \pm 4.0 \text{ mm}$ for pitch = 27.5 mm.
- Values in *Italic* indicate alternative dimensions.

$U_{Rdc} = 400 \text{ V}$; $U_{Rac} = 100 \text{ V}$

C ⁽²⁾ (μF)	DIMENSIONS W _{max} × H _{max} × L _{max} (mm)	MASS (g)	CATALOG NUMBER 2222 303 AND PACKAGING					
			LOOSE IN BOX					
			lt = 3.5 ± 0.5 mm			long leads ⁽¹⁾		
			C-tol = ± 10 %	C-tol = ± 5 %	SPQ	C-tol = ± 10 %	C-tol = ± 5 %	SPQ
			last 5 digits of catalog number	last 5 digits of catalog number		last 5 digits of catalog number	last 5 digits of catalog number	
Pitch = 10.0 ± 0.4 mm; d _t = 0.60 ± 0.06 mm; A ≤ 3.5 mm								
0.1	4.7 × 9.4 × 12.5	0.5	51104	52104	2000	53104	54104	1000
0.12	4.3 × 9.1 × 12.5	0.4	51124	52124	2000	53124	54124	1250
0.15	4.8 × 9.5 × 12.5	0.5	51154	52154	2000	53154	54154	1000
0.18	5.2 × 9.9 × 12.5	0.6	51184	52184	2000	53184	54184	1000
0.22	5.7 × 10.4 × 12.5	0.6	51224	52224	2000	53224	54224	900
Pitch = 15.0 ± 0.4 mm; d _t = 0.80 ± 0.08 mm; A ≤ 4.0 mm								
0.12	5.7 × 10.4 × 17.5	1.1	55124	56124	2000	57124	58124	900
0.15	5.4 × 10.1 × 17.5	0.8	55154	56154	2000	57154	58154	1000
0.18	5.9 × 10.6 × 17.5	1.0	55184	56184	1500	57184	58184	800
0.22	5.3 × 10.0 × 17.5	0.8	55224	56224	2000	57224	58224	1000
0.27	5.8 × 10.5 × 17.5	0.9	51274	52274	1500	53274	54274	900
0.33	5.4 × 10.1 × 17.5	0.8	51334	52334	2000	53334	54334	1000
0.39	5.8 × 10.5 × 17.5	0.9	51394	52394	1500	53394	54394	900
0.47	6.4 × 11.1 × 17.5	1.1	51474	52474	1500	53474	54474	800
0.56	6.9 × 11.7 × 17.5	1.2	51564	52564	1500	53564	54564	700
0.68	7.6 × 12.3 × 17.5	1.4	51684	52684	1250	53684	54684	600
0.82	8.4 × 13.1 × 17.5	1.7	51824	52824	1000	53824	54824	500
Pitch = 22.5 ± 0.4 mm; d _t = 0.80 ± 0.08 mm; A ≤ 4.0 mm								
0.56	9.9 × 17.7 × 26.0	4.0	55564	56564	600	57564	58564	500
0.68	7.9 × 15.8 × 26.0	2.8	55684	56684	900	57684	58684	600
0.82	8.7 × 16.6 × 26.0	3.3	55824	56824	800	57824	58824	500
1.0	7.7 × 15.5 × 26.0	2.7	51105	52105	900	53105	54105	600
1.2	8.4 × 16.3 × 26.0	3.1	51125	52125	800	53125	54125	600
1.5	7.9 × 15.8 × 26.0	2.8	51155	52155	900	53155	54155	600
1.8	8.7 × 16.6 × 26.0	3.3	51185	52185	800	53185	54185	500
2.2	9.7 × 17.5 × 26.0	3.8	51225	52225	700	53225	54225	500
Pitch = 27.5 ± 0.4 mm; d _t = 0.80 ± 0.08 mm; A ≤ 6.0 mm								
1.5	8.7 × 16.5 × 30.0	3.8	55155	56155	700	57155	58155	500
1.8	8.0 × 15.8 × 30.0	3.3	55185	56185	750	57185	58185	500
2.2	8.8 × 16.7 × 30.0	3.8	55225	56225	700	57225	58225	500
2.7	9.9 × 17.7 × 30.0	4.6	51275	52275	500	53275	54275	400
3.3	11.0 × 18.8 × 30.0	5.4	51335	52335	500	53335	54335	400
3.9	12.0 × 19.9 × 30.0	6.2	51395	52395	400	53395	54395	300

Notes

- Length of long leads:
 - $l_t = 19.0 \pm 4.0 \text{ mm}$ for pitch = 10 and 15.0 mm.
 - $l_t = 25.0 \pm 4.0 \text{ mm}$ for pitch = 22.5 mm.
 - $l_t = 24.0 \pm 4.0 \text{ mm}$ for pitch = 27.5 mm.
- Values in *Italic* indicate alternative dimensions.

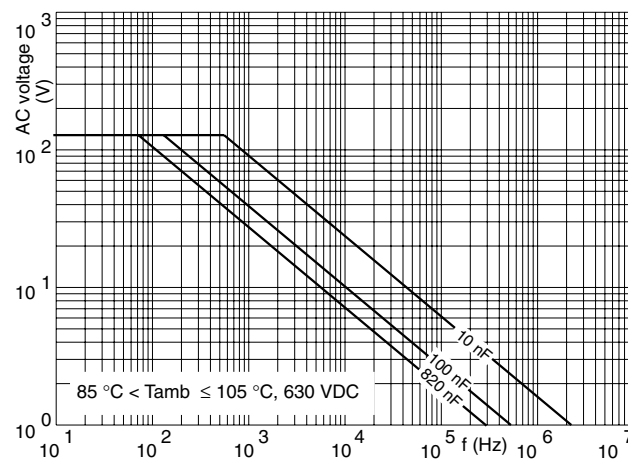
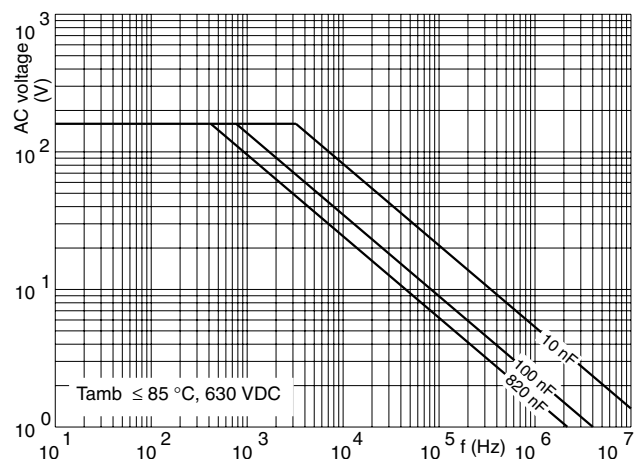
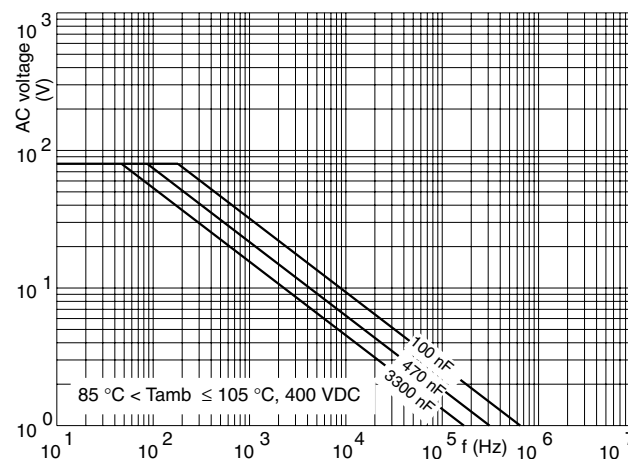
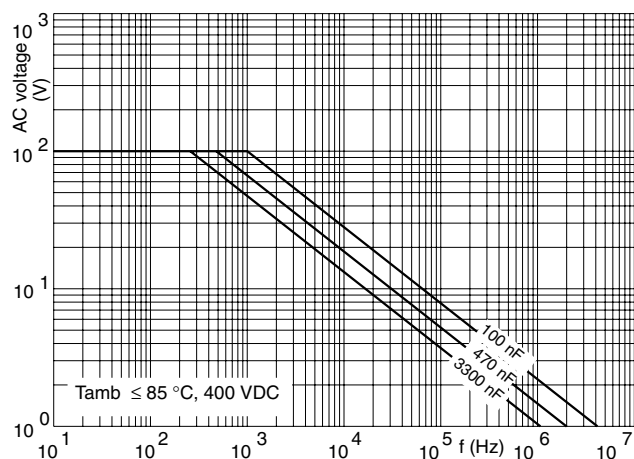
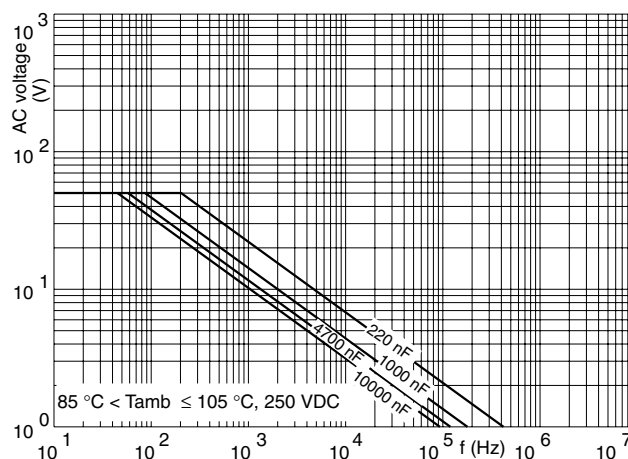
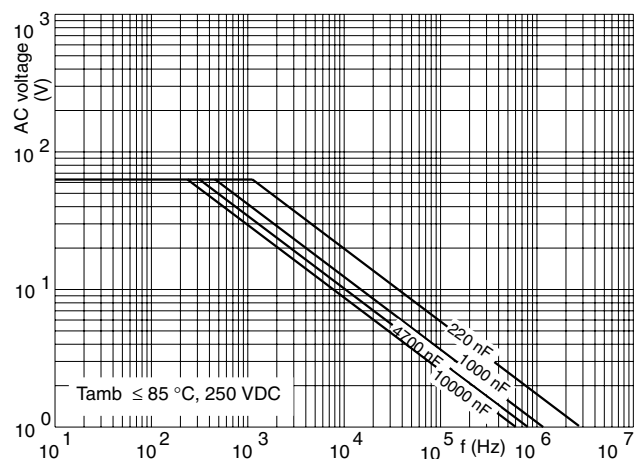
**Metallized Polyester Film Capacitors Vishay BCcomponents**
MKT Radial Epoxy Partly Lacquered Type**U_{Rdc} = 630 V; U_{Rac} = 160 V**

C ⁽²⁾ (μF)	DIMENSIONS W _{max} × H _{max} × L _{max} (mm)	MASS (g)	CATALOG NUMBER 2222 303 AND PACKAGING					
			LOOSE IN BOX					
			It = 3.5 ± 0.5 mm			long leads ⁽¹⁾		
			C-tol = ± 10 %	C-tol = ± 5 %	SPQ	C-tol = ± 10 %	C-tol = ± 5 %	SPQ
			last 5 digits of catalog number	last 5 digits of catalog number		last 5 digits of catalog number	last 5 digits of catalog number	
Pitch = 10.0 ± 0.4 mm; d _t = 0.60 ± 0.06 mm; A ≤ 3.5 mm								
0.01	4.1 × 8.8 × 12.5	0.4	61103	62103	2000	63103	64103	1250
0.012	4.5 × 9.3 × 12.5	0.5	61123	62123	2000	63123	64123	1000
0.015	4.9 × 9.6 × 12.5	0.5	61153	62153	2000	63153	64153	1000
0.018	4.4 × 9.1 × 12.5	0.4	61183	62183	2000	63183	64183	1250
0.022	4.8 × 9.5 × 12.5	0.5	61223	62223	2000	63223	64223	1000
0.027	4.2 × 8.9 × 12.5	0.4	61273	62273	2000	63273	64273	1250
0.033	4.0 × 8.7 × 12.5	0.4	61333	62333	2000	63333	64333	1250
0.039	4.3 × 9.0 × 12.5	0.4	61393	62393	2000	63393	64393	1250
0.047	4.7 × 9.4 × 12.5	0.5	61473	62473	2000	63473	64473	1000
0.056	5.1 × 9.8 × 12.5	0.5	61563	62563	2000	63563	64563	1000
0.068	5.5 × 10.3 × 12.5	0.6	61683	62683	2000	63683	64683	900
Pitch = 15.0 ± 0.4 mm; d _t = 0.80 ± 0.08 mm; A ≤ 4.0 mm								
0.056	5.9 × 10.6 × 17.5	1.0	65563	66563	1500	67563	68563	800
0.068	6.4 × 11.1 × 17.5	1.1	65683	66683	1500	67683	68683	800
0.082	5.4 × 10.1 × 17.5	0.8	61823	62823	2000	63823	64823	1000
0.1	5.2 × 9.9 × 17.5	0.8	61104	62104	2000	63104	64104	1000
0.12	5.7 × 10.4 × 17.5	0.9	61124	62124	2000	63124	64124	900
0.15	6.3 × 11.0 × 17.5	1.1	61154	62154	1500	63154	64154	800
0.18	6.9 × 11.6 × 17.5	1.2	61184	62184	1500	63184	64184	700
0.22	7.6 × 12.3 × 17.5	1.4	61224	62224	1250	63224	64224	600
0.27	8.4 × 13.1 × 17.5	1.7	61274	62274	1000	63274	64274	500
Pitch = 22.5 ± 0.4 mm; d _t = 0.80 ± 0.08 mm; A ≤ 4.0 mm								
0.27	8.9 × 16.8 × 26.0	3.4	65274	66274	800	67274	68274	500
0.33	9.9 × 17.8 × 26.0	4.0	61334	62334	600	63334	64334	500
0.39	8.1 × 16.0 × 26.0	2.9	61394	62394	900	63394	64394	600
0.47	7.7 × 15.6 × 26.0	2.7	61474	62474	900	63474	64474	600
0.56	8.4 × 16.3 × 26.0	3.1	61564	62564	800	63564	64564	600
0.68	9.4 × 17.2 × 26.0	3.7	61684	62684	700	63684	64684	500
Pitch = 27.5 ± 0.4 mm; d _t = 0.80 ± 0.08 mm; A ≤ 6.0 mm								
0.82	9.5 × 17.3 × 30.0	4.3	61824	62824	600	63824	64824	500
1.0	10.5 × 18.4 × 30.0	5.1	61105	62105	500	63105	64105	400
1.2	11.6 × 19.5 × 30.0	5.9	61125	62125	400	63125	64125	300

Notes

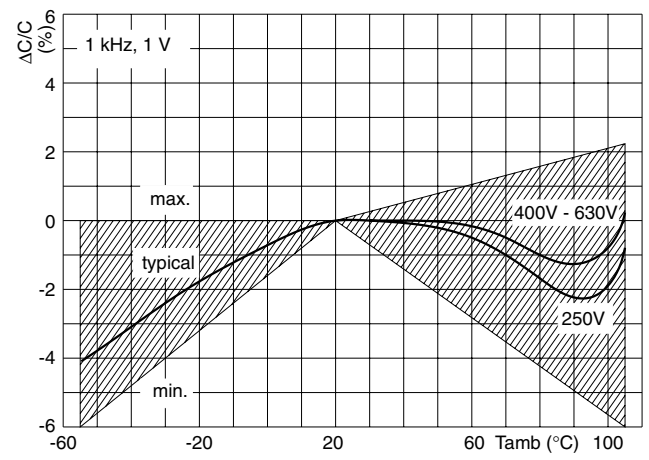
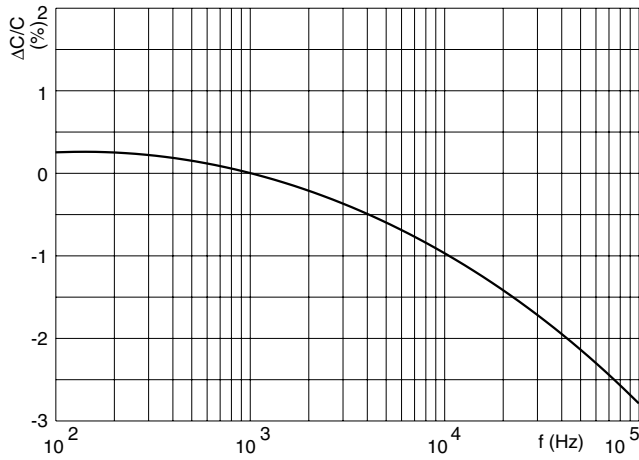
- Length of long leads:
 - $l_t = 19.0 \pm 4.0$ mm for pitch = 10 and 15.0 mm.
 - $l_t = 25.0 \pm 4.0$ mm for pitch = 22.5 mm.
 - $l_t = 24.0 \pm 4.0$ mm for pitch = 27.5 mm.
- Values in *Italic* indicate alternative dimensions.

MAXIMUM RMS VOLTAGE (SINEWAVE) AS A FUNCTION OF FREQUENCY

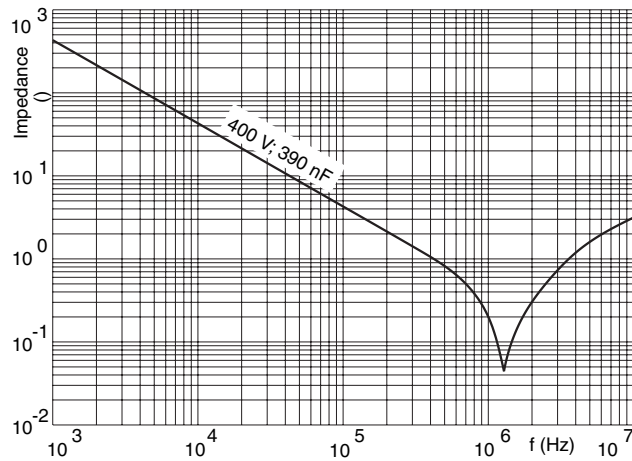




CAPACITANCE



IMPEDANCE





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