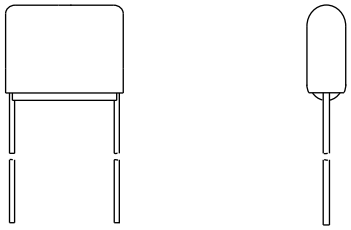
Metallized Polyester Film Capacitors
MKT Radial Epoxy Partly Lacquered Type



FEATURES

- Partly lacquered product
- Pitch 10 mm to 22.5 mm available loose in box
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

APPLICATIONS

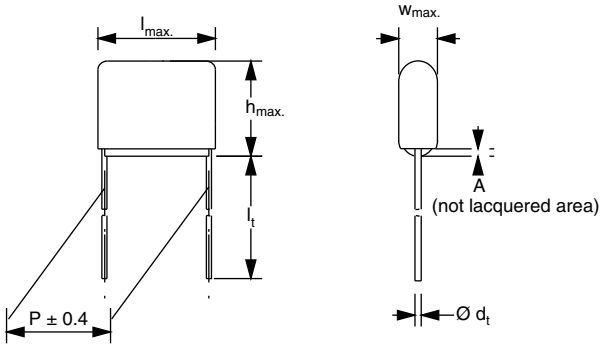
- Blocking, coupling and decoupling
- Bypass and energy reservoir

QUICK REFERENCE DATA	
Capacitance range (E12 series)	0.01 µF to 10 µF
Capacitance tolerance	± 10 %; ± 5 %
Rated DC voltage	250 V; 400 V; 630 V
Rated AC voltage	63 V; 100 V; 160 V
Rated temperature	85 °C
Climatic category	55/105/56
Maximum application temperature	105 °C
Leads	Tinned wire
Reference specifications	IEC 60384-2
Dielectric	Polyester film
Electrodes	Vacuum deposited aluminum
Construction	Wound mono construction
Coating	Flame retardant epoxy material (UL-class 94 V-0)
Performance grade	Grade 1 (long life)
Marking	C-value; rated voltage; tolerance

Note

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

DIMENSIONS in millimeters



For technical questions, contact: dc-film@vishay.com

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COMPOSITION OF CATALOG NUMBER

TYPE AND PITCHES	
303	10.0 mm
	15.0 mm
	22.5 mm

CAPACITANCE (numerically)

MULTIPLIER (nF)	
1	3
10	4
100	5

Example:
104 = 10 x 10 = 100 nF

BFC2	303	XX	XX	X

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:	at 1 kHz	at 10 kHz	at 100 kHz
C ≤ 0.47 µF	≤ 75 x 10^{-4}	≤ 120 x 10^{-4}	≤ 225 x 10^{-4}
C > 0.47 µF	≤ 75 x 10^{-4}	≤ 120 x 10^{-4}	-
Rated voltage pulse slope $(dU/dt)_R$:	at 250 V_{DC}	at 400 V_{DC}	at 630 V_{DC}
$l_{max.}$ = 12.5 mm	18 V/µs	45 V/µs	137 V/µs
$l_{max.}$ = 17.5 mm	6 V/µs	15 V/µs	44 V/µs
$l_{max.}$ = 26.0 mm	2 V/µs	6 V/µs	17 V/µs
R between leads, for C ≤ 0.33 µF at 100 V; 1 min	> 30 000 MΩ		
RC between leads, for C > 0.33 µF at 100 V; 1 min	> 10 000 s		
R between interconnecting leads and casing; 100 V; 1 min	> 30 000 MΩ		
Withstanding (DC) voltage (cut off current 10 mA) (1); rise time 1000 V/s	400 V; 1 min	640 V; 1 min	1008 V; 1 min
Withstanding (DC) voltage between leads and case	500 V; 1 min	800 V; 1 min	1260 V; 1 min

Note

(1) See “Voltage Proof Test for Metallized Film Capacitors”: www.vishay.com/doc?28169

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ELECTRICAL DATA AND ORDERING INFORMATION (U_{RAC} = 63 V)

U_{RDC} (V)	CAP. (2) (µF)	DIMENSIONS W_{max} x H_{max} x L_{max} (mm)	MASS (g)	CATALOG NUMBER 2222 303 ..... AND PACKAGING					
				LOOSE IN BOX					
				l_t = 3.5 mm ± 0.5 mm			LONG LEADS (1)		
				C-TOL. = ± 10 %	C-TOL. = ± 5 %		C-TOL. = ± 10 %	C-TOL. = ± 5 %	
				LAST 5 DIGITS OF CATALOG NUMBER	LAST 5 DIGITS OF CATALOG NUMBER	SPQ	LAST 5 DIGITS OF CATALOG NUMBER	LAST 5 DIGITS OF CATALOG NUMBER	SPQ
250	**PITCH = 10.0 mm ± 0.4 mm; d_t = 0.60 mm ± 0.06 mm; A ≤ 3.5 mm**								
	0.10	4.7 x 9.4 x 12.5	0.5	41104	42104	2000	43104	44104	1000
	0.12	4.3 x 9.1 x 12.5	0.4	41124	42124	2000	43124	44124	1250
	0.15	4.8 x 9.5 x 12.5	0.5	41154	42154	2000	43154	44154	1000
	0.18	5.2 x 9.9 x 12.5	0.6	41184	42184	2000	43184	44184	1000
	0.22	4.5 x 9.3 x 12.5	0.5	41224	42224	2000	43224	44224	1000
	0.27	5.0 x 9.7 x 12.5	0.5	41274	42274	2000	43274	44274	1000
	0.33	4.6 x 9.3 x 12.5	0.5	41334	42334	2000	43334	44334	1000
	0.39	4.9 x 9.6 x 12.5	0.5	41394	42394	2000	43394	44394	1000
	0.47	5.4 x 10.1 x 12.5	0.6	41474	42474	2000	43474	44474	900
	0.56	5.8 x 10.5 x 12.5	0.7	41564	42564	2000	43564	44564	900
	PITCH = 15.0 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm; A ≤ 4.0 mm								
	0.39	*5.8 x 10.5 x 17.5*	0.9	45394	46394	1500	47394	48394	900
	0.47	*6.4 x 11.1 x 17.5*	1.1	45474	46474	1500	47474	48474	800
	0.56	*5.5 x 10.2 x 17.5*	0.9	45564	46564	2000	47564	48564	900
	0.68	6.0 x 10.7 x 17.5	1.0	41684	42684	1500	43684	44684	800
	0.82	5.4 x 10.2 x 17.5	0.8	41824	42824	2000	43824	44824	1000
	1.0	6.0 x 10.7 x 17.5	1.0	41105	42105	1500	43105	44105	800
	1.2	6.5 x 11.2 x 17.5	1.1	41125	42125	1500	43125	44125	750
	1.5	7.3 x 12.0 x 17.5	1.3	41155	42155	1250	43155	44155	650
	1.8	7.9 x 12.7 x 17.5	1.5	41185	42185	1250	43185	44185	600
	PITCH = 22.5 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm; A ≤ 4.0 mm								
	1.8	*8.7 x 16.5 x 26.0*	3.3	45185	46185	800	47185	48185	500
	2.2	9.7 x 17.5 x 26.0	3.8	41225	42225	700	43225	44225	500
	2.7	8.3 x 16.1 x 26.0	3.0	41275	42275	900	43275	44275	600
	3.3	9.2 x 17.1 x 26.0	3.6	41335	42335	750	43335	44335	500
	3.9	8.2 x 16.0 x 26.0	3.0	41395	42395	900	43395	44395	600
	4.7	9.0 x 16.9 x 26.0	3.4	41475	42475	750	43475	44475	500
	5.6	9.9 x 17.7 x 26.0	4.0	41565	42565	600	43565	44565	500

Notes

(1) Length of long leads:
a) l_t = 19.0 mm ± 4.0 mm for pitch = 10 mm and 15.0 mm.
b) l_t = 25.0 mm ± 4.0 mm for pitch = 22.5 mm.

(2) Values in Italic indicate alternative dimensions.

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ELECTRICAL DATA AND ORDERING INFORMATION (U_{RAC} = 100 V)

U_{RDC} (V)	CAP. (2) (µF)	DIMENSIONS W_{max} x H_{max} x L_{max} (mm)	MASS (g)	CATALOG NUMBER 2222 303 ..... AND PACKAGING					
				LOOSE IN BOX					
				l_t = 3.5 mm ± 0.5 mm			LONG LEADS (1)		
				C-TOL. = ± 10 %	C-TOL. = ± 5 %		C-TOL. = ± 10 %	C-TOL. = ± 5 %	
				LAST 5 DIGITS OF CATALOG NUMBER	LAST 5 DIGITS OF CATALOG NUMBER	SPQ	LAST 5 DIGITS OF CATALOG NUMBER	LAST 5 DIGITS OF CATALOG NUMBER	SPQ
400	PITCH = 10.0 mm ± 0.4 mm; d_t = 0.60 mm ± 0.06 mm; A ≤ 3.5 mm								
	0.10	4.7 x 9.4 x 12.5	0.5	51104	52104	2000	53104	54104	1000
	0.12	4.3 x 9.1 x 12.5	0.4	51124	52124	2000	53124	54124	1250
	0.15	4.8 x 9.5 x 12.5	0.5	51154	52154	2000	53154	54154	1000
	0.18	5.2 x 9.9 x 12.5	0.6	51184	52184	2000	53184	54184	1000
	0.22	5.7 x 10.4 x 12.5	0.6	51224	52224	2000	53224	54224	900
	PITCH = 15.0 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm; A ≤ 4.0 mm								
	0.12	*5.7 x 10.4 x 17.5*	1.1	55124	56124	2000	57124	58124	900
	0.15	*5.4 x 10.1 x 17.5*	0.8	55154	56154	2000	57154	58154	1000
	0.18	*5.9 x 10.6 x 17.5*	1.0	55184	56184	1500	57184	58184	800
	0.22	*5.3 x 10.0 x 17.5*	0.8	55224	56224	2000	57224	58224	1000
	0.27	5.8 x 10.5 x 17.5	0.9	51274	52274	1500	53274	54274	900
	0.33	5.4 x 10.1 x 17.5	0.8	51334	52334	2000	53334	54334	1000
	0.39	5.8 x 10.5 x 17.5	0.9	51394	52394	1500	53394	54394	900
	0.47	6.4 x 11.1 x 17.5	1.1	51474	52474	1500	53474	54474	800
	0.56	6.9 x 11.7 x 17.5	1.2	51564	52564	1500	53564	54564	700
	0.68	7.6 x 12.3 x 17.5	1.4	51684	52684	1250	53684	54684	600
	0.82	8.4 x 13.1 x 17.5	1.7	51824	52824	1000	53824	54824	500
	PITCH = 22.5 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm; A ≤ 4.0 mm								
	0.56	*9.9 x 17.7 x 26.0*	4.0	55564	56564	600	57564	58564	500
	0.68	*7.9 x 15.8 x 26.0*	2.8	55684	56684	900	57684	58684	600
	0.82	*8.7 x 16.6 x 26.0*	3.3	55824	56824	800	57824	58824	500
	1.0	7.7 x 15.5 x 26.0	2.7	51105	52105	900	53105	54105	600
	1.2	8.4 x 16.3 x 26.0	3.1	51125	52125	800	53125	54125	600
	1.5	7.9 x 15.8 x 26.0	2.8	51155	52155	900	53155	54155	600
	1.8	8.7 x 16.6 x 26.0	3.3	51185	52185	800	53185	54185	500
	2.2	9.7 x 17.5 x 26.0	3.8	51225	52225	700	53225	54225	500

Notes

(1) Length of long leads:
a) l_t = 19.0 mm ± 4.0 mm for pitch = 10 mm and 15.0 mm.
b) l_t = 25.0 mm ± 4.0 mm for pitch = 22.5 mm.

(2) Values in Italic indicate alternative dimensions.

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ELECTRICAL DATA AND ORDERING INFORMATION (U_{RAC} = 160 V)

U_{RDC} (V)	CAP. (2) (µF)	DIMENSIONS W_{max} x H_{max} x L_{max} (mm)	MASS (g)	CATALOG NUMBER 2222 303 ..... AND PACKAGING					
				LOOSE IN BOX					
				l_t = 3.5 mm ± 0.5 mm			LONG LEADS (1)		
				C-TOL. = ± 10 %	C-TOL. = ± 5 %		C-TOL. = ± 10 %	C-TOL. = ± 5 %	
				LAST 5 DIGITS OF CATALOG NUMBER	LAST 5 DIGITS OF CATALOG NUMBER	SPQ	LAST 5 DIGITS OF CATALOG NUMBER	LAST 5 DIGITS OF CATALOG NUMBER	SPQ
	PITCH = 10.0 mm ± 0.4 mm; d_t = 0.60 mm ± 0.06 mm; A ≤ 3.5 mm								
	0.010	4.1 x 8.8 x 12.5	0.4	61103	62103	2000	63103	64103	1250
	0.012	4.5 x 9.3 x 12.5	0.5	61123	62123	2000	63123	64123	1000
	0.015	4.9 x 9.6 x 12.5	0.5	61153	62153	2000	63153	64153	1000
	0.018	4.4 x 9.1 x 12.5	0.4	61183	62183	2000	63183	64183	1250
	0.022	4.8 x 9.5 x 12.5	0.5	61223	62223	2000	63223	64223	1000
	0.027	4.2 x 8.9 x 12.5	0.4	61273	62273	2000	63273	64273	1250
	0.033	4.0 x 8.7 x 12.5	0.4	61333	62333	2000	63333	64333	1250
	0.039	4.3 x 9.0 x 12.5	0.4	61393	62393	2000	63393	64393	1250
	0.047	4.7 x 9.4 x 12.5	0.5	61473	62473	2000	63473	64473	1000
	0.056	5.1 x 9.8 x 12.5	0.5	61563	62563	2000	63563	64563	1000
	0.068	5.5 x 10.3 x 12.5	0.6	61683	62683	2000	63683	64683	900
	PITCH = 15.0 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm; A ≤ 4.0 mm								
	0.056	*5.9 x 10.6 x 17.5*	1.0	65563	66563	1500	67563	68563	800
630	*0.068*	*6.4 x 11.1 x 17.5*	1.1	65683	66683	1500	67683	68683	800
	0.082	*5.4 x 10.1 x 17.5*	0.8	61823	62823	2000	63823	64823	1000
	0.10	5.2 x 9.9 x 17.5	0.8	61104	62104	2000	63104	64104	1000
	0.12	5.7 x 10.4 x 17.5	0.9	61124	62124	2000	63124	64124	900
	0.15	6.3 x 11.0 x 17.5	1.1	61154	62154	1500	63154	64154	800
	0.18	6.9 x 11.6 x 17.5	1.2	61184	62184	1500	63184	64184	700
	0.22	7.6 x 12.3 x 17.5	1.4	61224	62224	1250	63224	64224	600
	0.27	8.4 x 13.1 x 17.5	1.7	61274	62274	1000	63274	64274	500
	PITCH = 22.5 mm ± 0.4 mm; d_t = 0.80 mm ± 0.08 mm; A ≤ 4.0 mm								
	0.27	*8.9 x 16.8 x 26.0*	3.4	65274	66274	800	67274	67274	500
	0.33	9.9 x 17.8 x 26.0	4.0	61334	62334	600	63334	64334	500
	0.39	8.1 x 16.0 x 26.0	2.9	61394	62394	900	63394	64394	600
	0.47	7.7 x 15.6 x 26.0	2.7	61474	62474	900	63474	64474	600
	0.56	8.4 x 16.3 x 26.0	3.1	61564	62564	800	63564	64564	600
	0.68	9.4 x 17.2 x 26.0	3.7	61684	62684	700	63684	64684	500

Notes

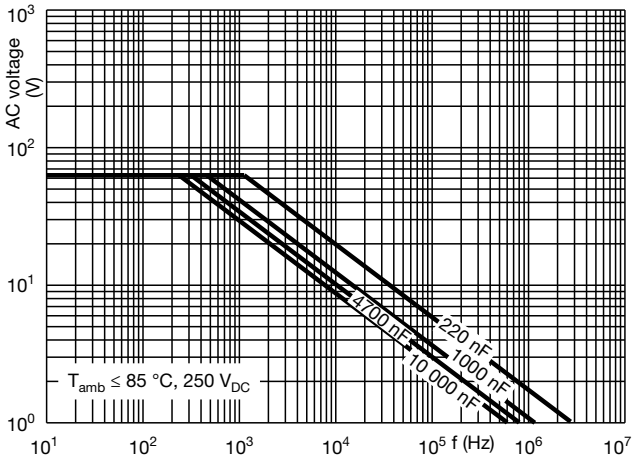
(1) Length of long leads:
a) l_t = 19.0 mm ± 4.0 mm for pitch = 10 mm and 15.0 mm.
b) l_t = 25.0 mm ± 4.0 mm for pitch = 22.5 mm.

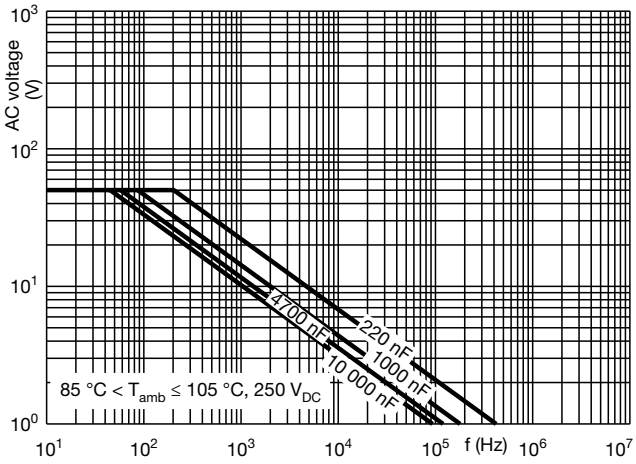
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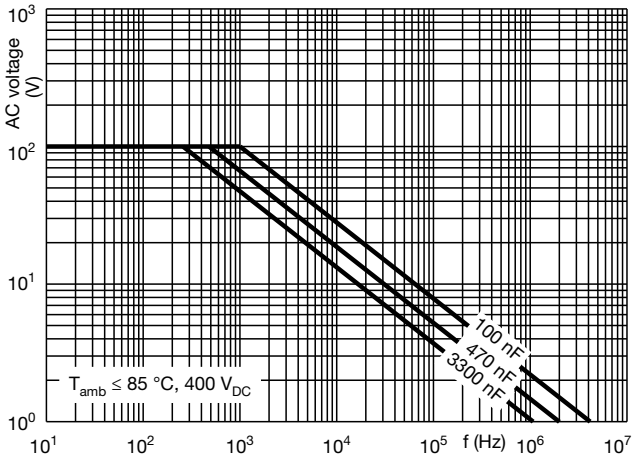
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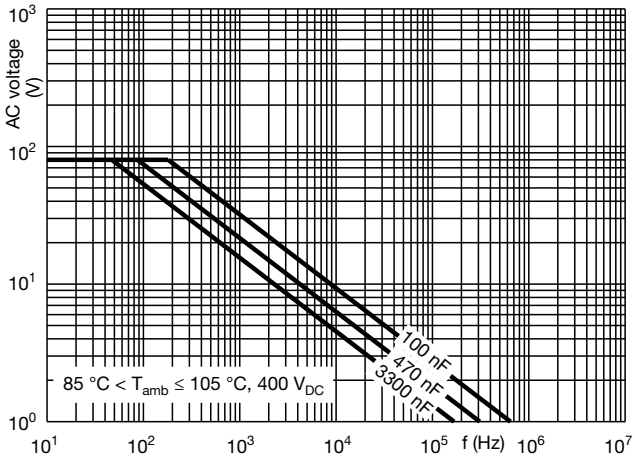
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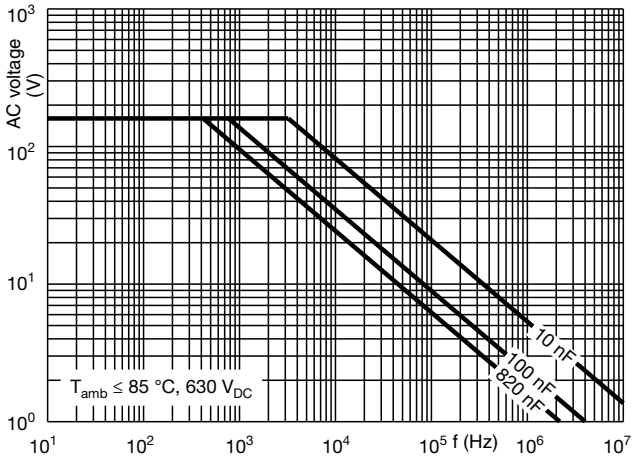
MAXIMUM RMS VOLTAGE (SINEWAVE) AS A FUNCTION OF FREQUENCY

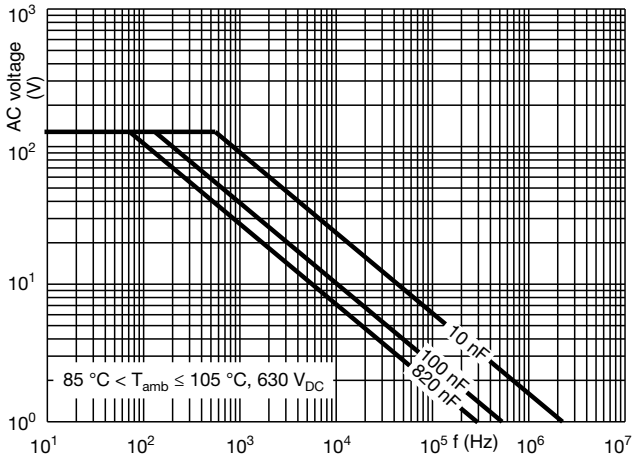








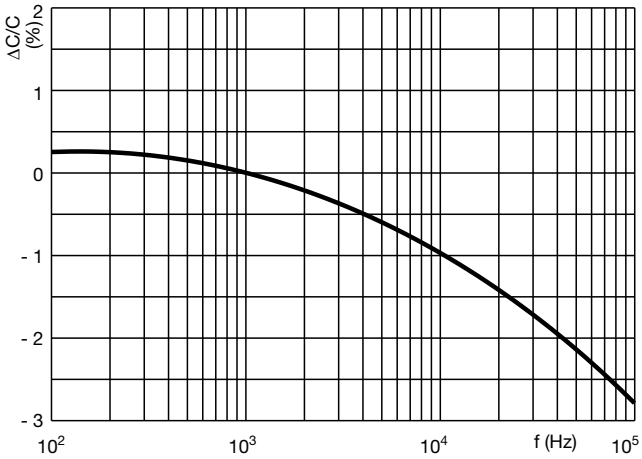


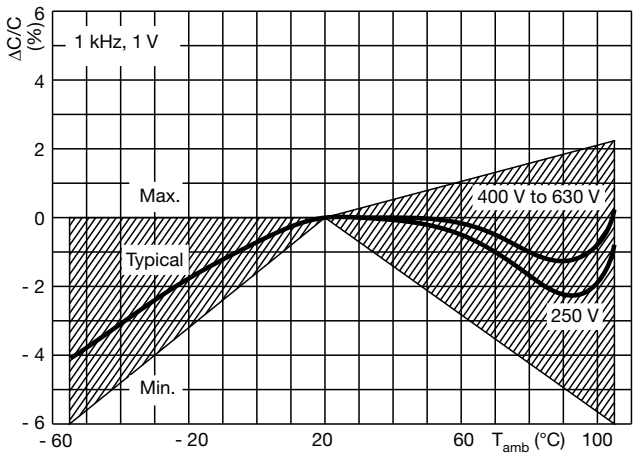


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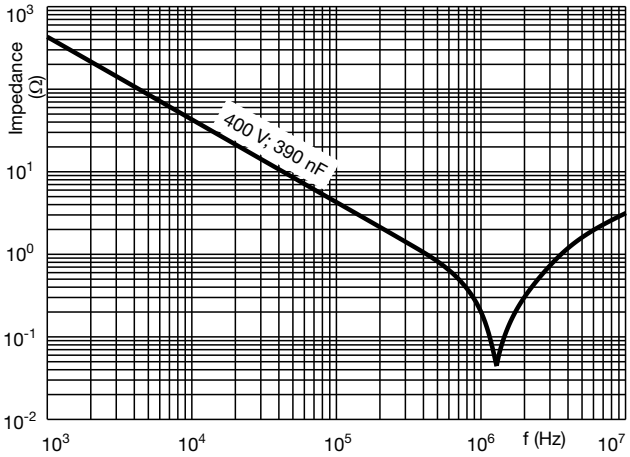
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CAPACITANCE





IMPEDANCE



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