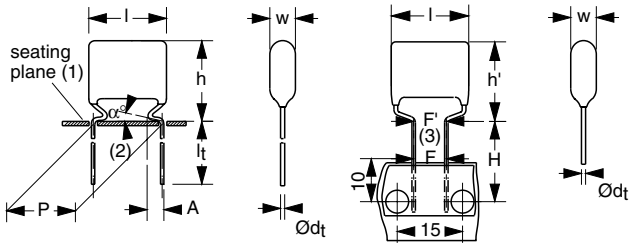
Metallized Polyester Film Capacitors
MKT Radial Epoxy Lacquered Type



Dimensions in mm

(1) Hole ∅ 1.3 for d_t = 0.8 mm
(2) $0 \le \alpha < 50°$
(3) $|F - F'| < 0.3$ mm
F = 7.5 + 0.6/– 0.1 mm
(4) A = 2.5 + 1.4/– 0.5 mm

APPLICATIONS

Blocking and coupling. Bypass and energy reservoir

MARKING

C-value; tolerance; rated voltage; code for manufacturer; manufacturer's type designation; manufacturer's symbol

DIELECTRIC

Polyester film

ELECTRODES

Vacuum deposited aluminum

COATING

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

CONSTRUCTION

Wound mono construction

LEADS

Tinned wire

CAPACITANCE RANGE (E12 SERIES)

0.001 to 10 µF

FEATURES

Available taped and loose in box

Lead (Pb)-free product

RoHS-compliant product

Pb-free

e3

RoHS COMPLIANT

CAPACITANCE TOLERANCE

± 10 %; ± 5 %

RATED (DC) VOLTAGE

100 V; 250 V; 400 V; 630 V; 1000 V

RATED (AC) VOLTAGE

63 V; 160 V; 220 V; 250 V; 250 V

CLIMATIC CATEGORY

55/105/56

RATED TEMPERATURE

85 °C

MAXIMUM APPLICATION TEMPERATURE

105 °C

REFERENCE SPECIFICATIONS

IEC 60384-2

PERFORMANCE GRADE

Grade 1 (long life)

MATERIALS

Qualified in accordance with UL94 V-0

DETAIL SPECIFICATION

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

COMPOSITION OF CATALOG NUMBER

TYPE AND PITCHES	
468	15/7.5 mm
	15.0 mm
	22.5 mm
	27.5 mm

CAPACITANCE (numerically)

MULTIPLIER (nF)	
0.1	2
1	3
10	4
100	5

Example:
104 = 10 x 10 = 100 nF

2222	468	XX	XX	X
BFC2*	468	XX	XX	X

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

TYPE	PACKAGING	LEAD CONFIGURATION	PREFERRED TYPES					
			C-TOL	100 V	250 V	400 V	630 V	1000 V
MKT 468	loose in box	lead length 3.5 + 1.0/- 0.5 mm	± 10 %	04	16	28	40	-
			± 5 %	05	17	29	41	-
	Taped on reel (bent back)	H = 16.0 mm; P_0 = 15.0 mm; reel diameter = 500 mm	± 10 %	61	63	65	67	-
			± 5 %	62	64	66	68	-
			dimensions of these code numbers stay between brackets					
MKT/MKT 468	loose in box	lead length 3.5 + 1.0/- 0.5 mm	± 10 %	-	-	-	-	60
			ON REQUEST					
MKT 468	loose in box	long leads: 19.0 ± 4.0 mm for lead pitch = 15.0 mm 25.0 ± 4.0 mm for lead pitch = 22.5 mm 24.0 ± 4.0 mm for lead pitch = 27.5 mm	± 10 %	51	53	55	57	-
			± 5 %	52	54	56	58	-
	taped on reel	H = 16.0 mm; P_0 = 12.7 mm; reel diameter = 500 mm	± 10 %	06	18	30	42	-
			± 5 %	07	19	31	43	-

SPECIFIC REFERENCE DATA

DESCRIPTION	VALUE				
Tangent of loss angle:	at 1 kHz		at 10 kHz		at 100 kHz
C ≤ 0.1 µF	≤ 75 × 10^{-4}		≤ 120 × 10^{-4}		≤ 200 × 10^{-4}
0.1 µF < C ≤ 0.47 µF	≤ 75 × 10^{-4}		≤ 120 × 10^{-4}		≤ 225 × 10^{-4}
0.47 µF < C ≤ 10 µF	≤ 75 × 10^{-4}		≤ 120 × 10^{-4}		–
Rated voltage pulse slope $(dU/dt)_R$:	at 100 V (DC)	at 250 V (DC)	at 400 V (DC)	at 630 V (DC)	at 1000 V (DC)
l_{max} = 17.5 mm	20 V/µs	45 V/µs	65 V/µs	90 V/µs	200 V/µs
l_{max} = 26.0 mm	10 V/µs	20 V/µs	30 V/µs	35 V/µs	120 V/µs
l_{max} = 30.0 mm		15 V/µs	25 V/µs	30 V/µs	100 V/µs
R between leads, for C ≤ 0.33 µF:					
at 100 V; 1 minute		> 30000 MΩ	> 30000 MΩ		
at 500 V; 1 minute				> 30000 MΩ	> 30000 MΩ
RC between leads, for C > 0.33 µF: 1 minute					
at 100 V; 1 minute	> 5000 s	> 10000 s	> 10000 s		
at 500 V; 1 minute				>10 000 s	
R between interconnecting leads and casing; 100 V; 1 minute	> 30000 MΩ	> 30000 MΩ	> 30000 MΩ	> 30000 MΩ	> 30000 MΩ
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	160 V; 1 minute	400 V; 1 minute	640 V; 1 minute	1008 V; 1 minute	1600 V; 1 minute
Withstanding (DC) voltage between leads and case	200 V; 1 minute	500 V; 1 minute	800 V; 1 minute	1260 V; 1 minute	2000 V; 1 minute

U_{Rdc} = 100 V; U_{Rac} = 63 V

C (µF)	DIMENSIONS Wmax × H (H')max × Lmax (mm)	MASS (g)	CATALOG NUMBER 2222 468 ..... AND PACKAGING							
			LOOSE IN BOX				REEL			
			lt = 3.5 ± 0.5 mm		SHORT LEADS	LONG LEADS	ORIGINAL PITCH	pitch = 7.5 mm (bent back)		
			C-tol = ± 10 %	C-tol = ± 5 %				C-tol = ± 10 %	C-tol = ± 5 %	
			LAST 5 DIGITS OF CATALOG NUMBER		SPQ	SPQ	SPQ	LAST 5 DIGITS OF CATALOG NUMBER		SPQ
Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm								**pitch = 7.5 mm (bent back)**		
1.2	5.5 × 14.5 (16.0) × 17.5	0.7	04125	05125	2000	1250	1100	61125	62125	900
1.5	6.0 × 15.0 (16.5) × 17.5	0.9	04155	05155	2000	1250	1000	61155	62155	800
1.8	6.5 × 15.5 (17.0) × 17.5	1.0	04185	05185	1500	1000	900	61185	62185	750
2.2	7.0 × 16.0 (17.5) × 17.5	1.2	04225	05225	1250	1000	800	61225	62225	700
2.7	8.0 × 17.0 (18.5) × 17.5	1.4	04275	05275	1000	1000	750	61275	62275	600
3.3	8.5 × 17.5 (19.0) × 17.5	1.5	04335	05335	1000	1000	700	61335	62335	550
Pitch = 22.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm								**pitch = 7.5 mm (bent back)**		
3.9	6.5 × 18.5 × 26.0	2.8	04395	05395	1000	750	650			
4.7	7.0 × 19.5 × 26.0	3.2	04475	05475	900	700	550			
5.6	7.5 × 20.0 × 26.0	3.5	04565	05565	750	600	500			
6.8	8.5 × 21.5 × 26.0	4.1	04685	05685	750	500	450			
8.2	9.5 × 22.5 × 26.0	4.8	04825	05825	700	500	400			
10.0	10.5 × 23.5 × 26.0	5.5	04106	05106	500	400	350			

U_{Rdc} = 250 V; U_{Rac} = 160 V

C (µF)	DIMENSIONS Wmax × H (H')max × Lmax (mm)	MASS (g)	CATALOG NUMBER 2222 468 ..... AND PACKAGING							
			LOOSE IN BOX				REEL			
			lt = 3.5 ± 0.5 mm		SHORT LEADS	LONG LEADS	ORIGINAL PITCH	pitch = 7.5 mm (bent back)		
			C-tol = ± 10 %	C-tol = ± 5 %				C-tol = ± 10 %	C-tol = ± 5 %	
			LAST 5 DIGITS OF CATALOG NUMBER		SPQ	SPQ	SPQ	LAST 5 DIGITS OF CATALOG NUMBER		SPQ
Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm								**pitch = 7.5 mm (bent back)**		
0.27	5.0 × 14.0 (15.5) × 17.5	0.6	16274	17274	2000	1250	1200	63274	64274	1000
0.33	5.5 × 14.5 (16.0) × 17.5	0.7	16334	17334	2000	1250	1100	63334	64334	900
0.39	6.0 × 15.0 (16.5) × 17.5	0.9	16394	17394	2000	1250	1000	63394	64394	800
0.47	6.5 × 15.5 (17.0) × 17.5	1.0	16474	17474	1500	1000	900	63474	64474	750
0.56	7.5 × 16.5 (18.0) × 17.5	1.3	16564	17564	1250	1000	800	63564	64564	650
0.68	8.0 × 17.0 (18.5) × 17.5	1.4	16684	17684	1000	1000	750	63684	64684	600
0.82	8.5 × 17.5 (19.0) × 17.5	1.5	16824	17824	1000	1000	700	63824	64824	550
1.0	8.0 × 20.0 (21.5) × 17.5	1.7	16105	17105	1000	900	750	63105	64105	600
Pitch = 22.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm								**pitch = 7.5 mm (bent back)**		
1.2	7.0 × 19.0 × 26.0	3.2	16125	17125	1000	700	550			
1.5	8.0 × 21.0 × 26.0	3.8	16155	17155	750	500	500			
1.8	9.0 × 22.0 × 26.0	4.1	16185	17185	750	500	450			
2.2	9.8 × 23.0 × 26.0	4.8	16225	17225	750	450	400			
2.7	11.0 × 24.0 × 26.0	5.9	16275	17275	500	400	350			

C (µF)	DIMENSIONS Wmax × H (H')max × Lmax (mm)	MASS (g)	CATALOG NUMBER 2222 468 ..... AND PACKAGING							
			LOOSE IN BOX				REEL			
			lt = 3.5 ± 0.5 mm		SHORT LEADS	LONG LEADS	ORIGINAL PITCH	pitch = 7.5 mm (bent back)		
			C-tol = ± 10 %	C-tol = ± 5 %				C-tol = ± 10 %	C-tol = ± 5 %	
			LAST 5 DIGITS OF CATALOG NUMBER		SPQ	SPQ	SPQ	LAST 5 DIGITS OF CATALOG NUMBER		SPQ
3.3	12.5 × 25.5 × 26.0	6.9	16335	17335	500	300	350			
3.9	13.5 × 26.5 × 26.0	7.5	16395	17395	400	300	300			
4.7	14.9 × 28.0 × 26.0	8.6	16475	17475	250	250	250			
Pitch = 27.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm; A = 2.5 + 1.4/– 0.5 mm								**pitch = 7.5 mm (bent back)**		
5.6	15.0 × 28.0 × 30.0	9.1	16565	17565	300	200				

U_{Rdc} = 400 V; U_{Rac} = 220 V

C (µF)	DIMENSIONS Wmax × H (H')max × Lmax (mm)	MASS (g)	CATALOG NUMBER 2222 468 ..... AND PACKAGING							
			LOOSE IN BOX				REEL			
			lt = 3.5 ± 0.5 mm		SHORT LEADS	LONG LEADS	ORIGINAL PITCH	pitch = 7.5 mm (bent back)		
			C-tol = ± 10 %	C-tol = ± 5 %				C-tol = ± 10 %	C-tol = ± 5 %	
			LAST 5 DIGITS OF CATALOG NUMBER		SPQ	SPQ	SPQ	LAST 5 DIGITS OF CATALOG NUMBER		SPQ
Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm								**pitch = 7.5 mm (bent back)**		
0.12	5.0 × 14.0 (15.5) × 17.5	0.6	28124	29124	2000	1250	1200	65124	66124	1000
0.15	5.8 × 15.0 (16.5) × 17.5	0.9	28154	29154	1750	1250	1100	65154	66154	850
0.18	6.5 × 15.5 (17.0) × 17.5	1.0	28184	29184	1500	1000	900	65184	66184	750
0.22	7.0 × 15.5 (17.5) × 17.5	1.2	28224	29224	1500	1000	800	65224	66224	700
0.27	7.4 × 16.5 (18.0) × 17.5	1.3	28274	29274	1250	1250	800	65274	66274	650
0.33	8.5 × 17.5 (19.0) × 17.5	1.5	28334	29334	1000	1000	700	65334	66334	550
0.39	7.4 × 19.5 (21.0) × 17.5	1.3	28394	29394	1000	1000	800	65394	66394	650
0.47	8.4 × 20.5 (22.0) × 17.5	1.5	28474	29474	750	850	700	65474	66474	550
Pitch = 22.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm								**pitch = 7.5 mm (bent back)**		
0.56	7.5 × 19.5 × 26.0	3.2	28564	29564	1000	650	550			
0.68	8.0 × 21.0 × 26.0	3.8	28684	29684	750	500	500			
0.82	9.0 × 22.0 × 26.0	4.5	28824	29824	750	500	450			
1.0	9.9 × 23.0 × 26.0	5.2	28105	29105	750	450	400			
1.2	11.0 × 24.0 × 26.0	5.9	28125	29125	500	400	350			
Pitch = 27.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm; A = 2.5 + 1.4/– 0.5 mm								**pitch = 7.5 mm (bent back)**		
1.5	11.5 × 24.5 × 30.0	6.5	28155	29155	450	300				
1.8	12.5 × 25.5 × 30.0	7.1	28185	29185	350	250				
2.2	14.0 × 27.0 × 30.0	8.2	28225	29225	300	200				

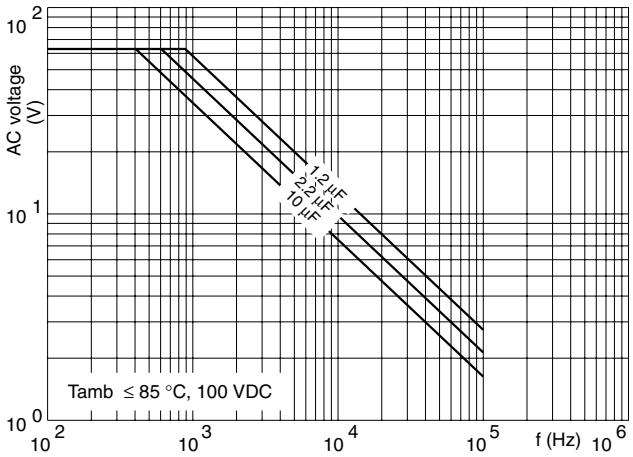
U_{Rdc} = 630 V; U_{Rac} = 250 V

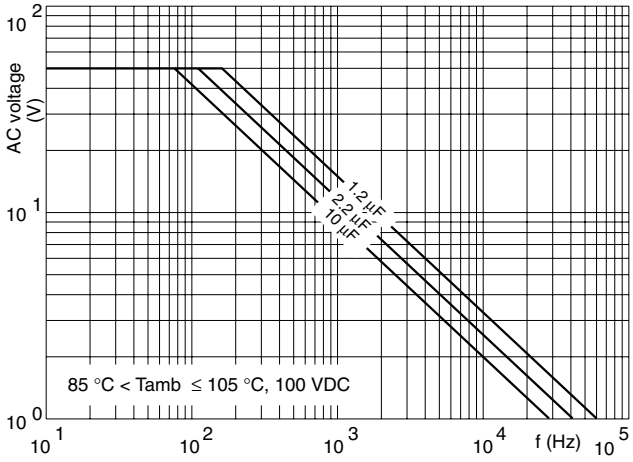
C (µF)	DIMENSIONS Wmax × H (H')max × Lmax (mm)	MASS (g)	CATALOG NUMBER 2222 468 ..... AND PACKAGING							
			LOOSE IN BOX				REEL			
			lt = 3.5 ± 0.5 mm		SHORT LEADS	LONG LEADS	ORIGINAL PITCH	pitch = 7.5 mm (bent back)		
			C-tol = ± 10 %	C-tol = ± 5 %				C-tol = ± 10 %	C-tol = ± 5 %	
			LAST 5 DIGITS OF CATALOG NUMBER		SPQ	SPQ	SPQ	LAST 5 DIGITS OF CATALOG		SPQ
Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm								**pitch = 7.5 mm (bent back)**		
0.039	5.0 × 14.0 (15.5) × 17.5	0.6	40393	41393	2000	1250	1200	67393	68393	1000
0.047	5.5 × 14.5 (16.0) × 17.5	0.7	40473	41473	2000	1250	1100	67473	68473	900
0.056	5.9 × 15.0 (16.5) × 17.5	0.9	40563	41563	1750	1250	1000	67563	68563	850
0.068	6.5 × 16.0 (17.5) × 17.5	1.2	40683	41683	1500	1000	800	67683	68683	750
0.082	7.3 × 16.5 (18.0) × 17.5	1.3	40823	41823	1500	1000	800	67823	68823	650
0.1	7.9 × 17.0 (18.5) × 17.5	1.4	40104	41104	1250	1000	750	67104	68104	600
0.12	7.5 × 19.5 (21.0) × 17.5	1.3	40124	41124	1250	1000	800	67124	68124	650
0.15	8.5 × 20.5 (22.0) × 17.5	1.5	40154	41154	1000	850	700	67154	68154	550
Pitch = 22.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm								**pitch = 7.5 mm (bent back)**		
0.18	7.5 × 19.5 × 26.0	3.5	40184	41184	1000	650	550			
0.22	8.0 × 21.0 × 26.0	3.8	40224	41224	750	500	500			
0.27	9.0 × 22.0 × 26.0	4.5	40274	41274	750	500	450			
0.33	10.0 × 23.0 × 26.0	5.2	40334	41334	700	450	400			
0.39	11.5 × 24.0 × 26.0	5.9	40394	41394	600	400	350			
0.47	12.5 × 25.5 × 26.0	6.9	40474	41474	500	300	350			
0.56	13.5 × 26.6 × 26.0	7.5	40564	41564	450	300	300			
0.68	15.0 × 28.0 × 26.0	8.6	40684	41684	400	250	250			
Pitch = 27.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm; A = 2.5 + 1.4/– 0.5 mm								**pitch = 7.5 mm (bent back)**		
0.82	15.0 × 28.0 × 30.0	8.8	40824	41824	300	200				

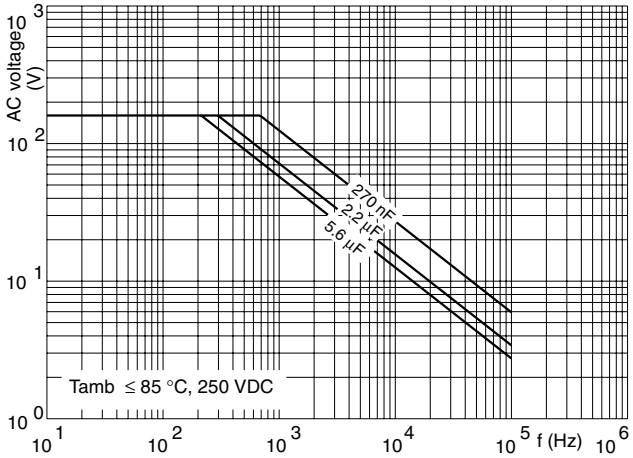
U_{Rdc} = 1000 V; U_{Rac} = 400 V

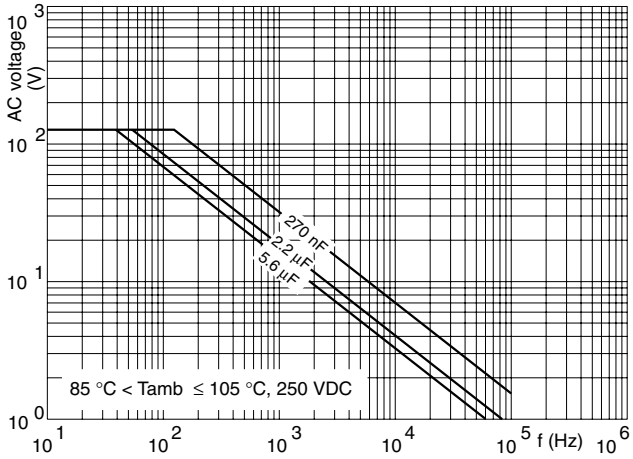
C (µF)	DIMENSIONS Wmax × H (H')max × Lmax (mm)	MASS (g)	CATALOG NUMBER 2222 468 ..... AND PACKAGING	
			LOOSE IN BOX	
			lt = 3.5 ± 0.5 mm	
			C-tol = ± 10 %	
			LAST 5 DIGITS OF CATALOG	SPQ
Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm				
0.015	6.0 × 15.0 × 17.5	0.6	60153	2000
0.018	6.5 × 15.5 × 17.5	0.7	60183	1500
0.022	7.2 × 16.2 × 17.5	0.9	60223	1500
0.027	8.0 × 17.0 × 17.5	1.0	60273	1500
0.033	8.8 × 17.8 × 17.5	1.4	60333	1000
0.039	9.6 × 18.6 × 17.5	1.5	60393	1000
0.047	10.6 × 19.6 × 17.5	1.8	60473	900
Pitch = 22.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm				
0.056	7.0 × 20.0 × 26.0	3.2	60563	900
0.068	8.0 × 21.0 × 26.0	3.8	60683	750
0.082	8.5 × 21.5 × 26.0	4.1	60823	750
0.1	9.5 × 22.5 × 26.0	4.8	60104	700
0.12	10.5 × 23.5 × 26.0	5.5	60124	500
Pitch = 27.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm				
0.15	10.5 × 23.5 × 30.0	5.8	60154	500
0.18	11.5 × 24.5 × 30.0	6.5	60184	450
0.22	13.0 × 26.0 × 30.0	7.5	60224	350

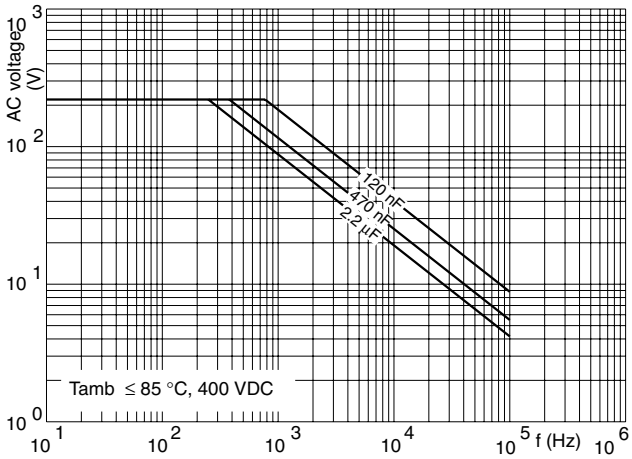
MAXIMUM RMS VOLTAGE (SINEWAVE) AS A FUNCTION OF FREQUENCY

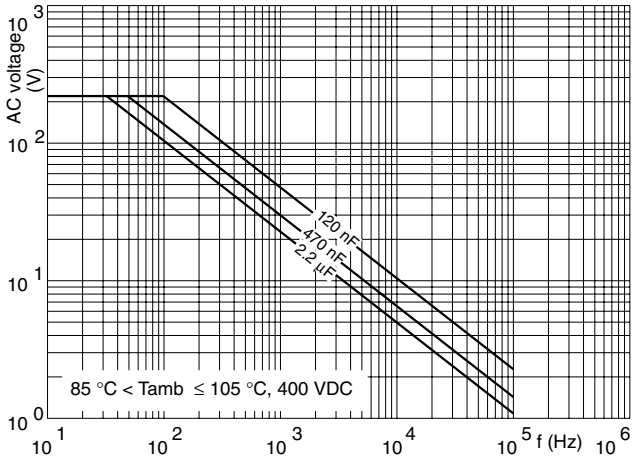


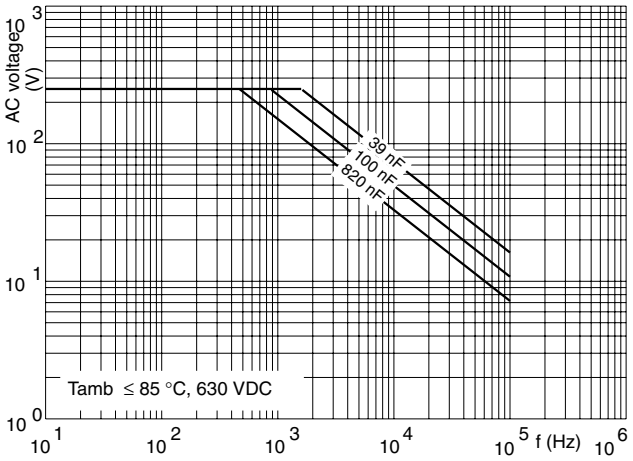


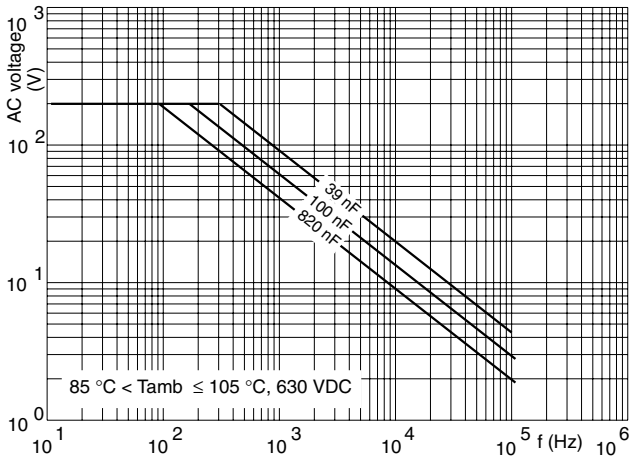


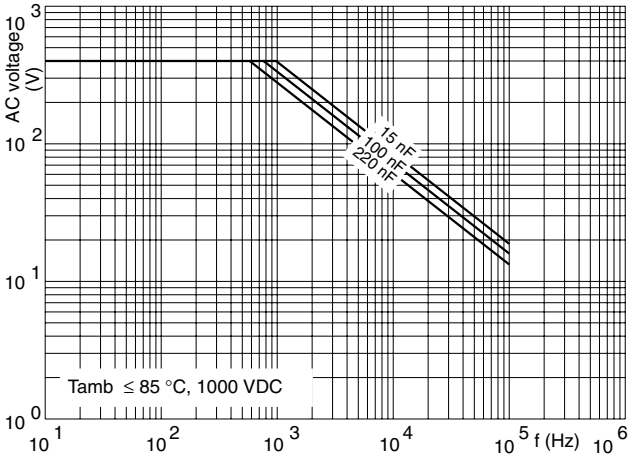


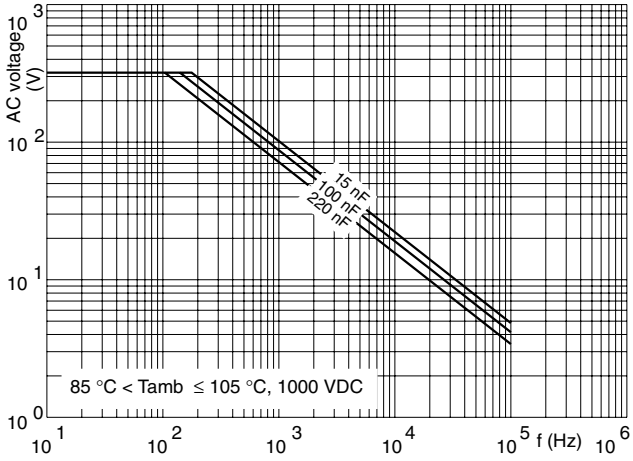




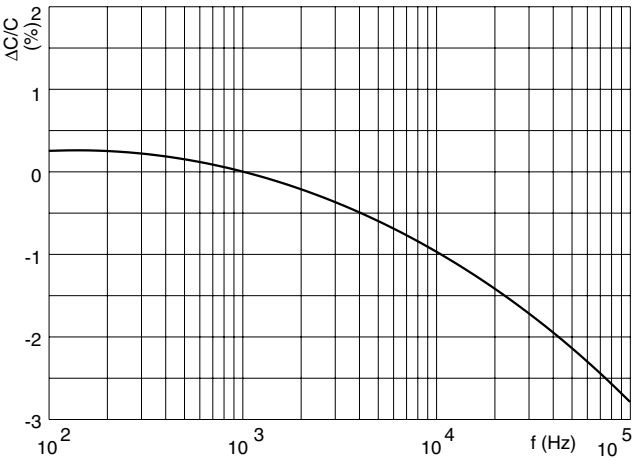


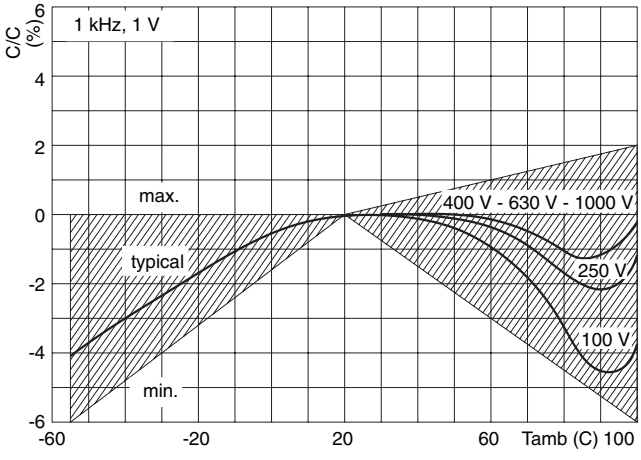




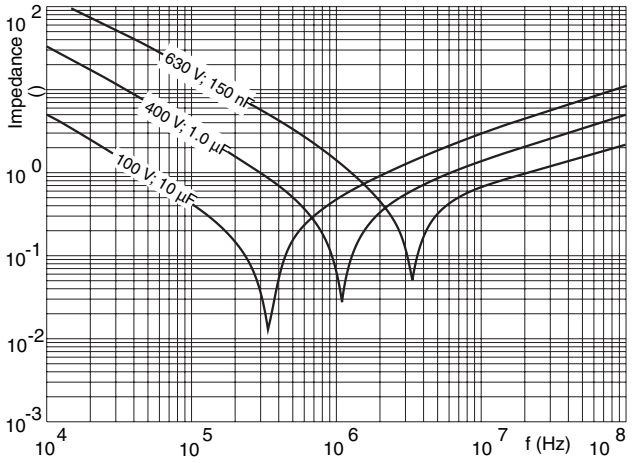


CAPACITANCE





IMPEDANCE


Impedance (Ω)
10 2
10 0
10-1
10-2
10-3
630 V; 150 nF
400 V; 1.0 µF
100 V; 10 µF
10 4
10 5
10 6
10 7
f (Hz)
10 8

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