



# Product Change Notification



Product Group: Film capacitors/22/05/2006/PCN-FC-017-2006 Rev 0

## Discontinuation of the 2222 336 1xxxx 10mm pitch

### DESCRIPTION OF CHANGE:

By this PCN we announce the End of Life of our 2222 336 1xxxx or BFC2 336 1xxxx pitch 10mm.

**CLASSIFICATION OF CHANGE:** EOL

**REASON FOR CHANGE:** streamlining of our portfolio

**EXPECTED INFLUENCE ON QUALITY/RELIABILITY/PERFORMANCE:** n/a

**PRODUCT CATEGORY:** film capacitors

**PART NUMBERS/SERIES/FAMILIES AFFECTED:** 2222 336 1xxxx or BFC2 336 1xxxx pitch 10mm.

See Annex 1 for the alternatives in the F1710-3 series (X1/Y2 305Vac).

**VISHAY BRAND(s):** Vishay BCcomponents

### TIME SCHEDULE:

Start Shipment date: n/a  
Last Time Buy Date: orders in before Oct 30, 2006  
Last Time Shipment Date: before December 31, 2006

**SAMPLE AVAILABILITY:** n/a

**PRODUCT IDENTIFICATION:** n/a

**QUALIFICATION DATA:** n/a

**This PCN is considered approved, without further notification, unless we receive specific customer concerns before 31/08/2006.**

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PN 336 1 2222 ... .. or BFC2 ... ..	Description 336 1 type 10mm pitch (1): LL stand for lead length	Dimensions 336 1 wxhxl (mm)	Alternative PN F1710-3	Description F1710-3 type 10mm pitch	Dimensions F1710-3 wxhxl (mm)	old SPQ 336 1	new SPQ F1710
<b>20% tolerance products</b>							
2222 336 10102	X1 275Vac 1,0nF 20% LL <sub>(1)</sub> =3,5+1/-0,5mm	4,0x10,0x12,5	F1710-210-M3DBB0	X1/Y2 305Vac 1,0nF 20% LL <sub>(1)</sub> =4-1mm	3,8x8,8x12,8	1.000	1.500
2222 336 10152	X1 275Vac 1,5nF 20% LL <sub>(1)</sub> =3,5+1/-0,5mm	4,0x10,0x12,5	F1710-215-M3DBB0	X1/Y2 305Vac 1,5nF 20% LL=4-1mm	3,8x8,8x12,8	1.000	1.500
2222 336 10222	X1 275Vac 2,2nF 20% LL <sub>(1)</sub> =3,5+1/-0,5mm	4,0x10,0x12,5	F1710-222-M3DBB0	X1/Y2 305Vac 2,2nF 20% LL=4-1mm	4,3x9,3x12,8	1.000	1.250
2222 336 10332	X1 275Vac 3,3nF 20% LL <sub>(1)</sub> =3,5+1/-0,5mm	5,0x11,0x12,5	F1710-233-M3DBB0	X1/Y2 305Vac 3,3nF 20% LL=4-1mm	5,3x10,3x12,8	1.000	1.000
2222 336 10472	X1 275Vac 4,7nF 20% LL <sub>(1)</sub> =3,5+1/-0,5mm	5,0x11,0x12,5	F1710-247-M3DBB0	X1/Y2 305Vac 4,7nF 20% LL=4-1mm	5,3x10,3x12,8	1.000	1.000
2222 336 10682	X1 275Vac 6,8nF 20% LL <sub>(1)</sub> =3,5+1/-0,5mm	5,0x11,0x12,5	F1710-268-M3DBB0	X1/Y2 305Vac 6,8nF 20% LL=4-1mm	6,3x11,3x12,8	1.000	750
2222 336 10103	X1 275Vac 10nF 20% LL <sub>(1)</sub> =3,5+1/-0,5mm	6,0x12,0x12,5	F1710-310-M3DBB0	X1/Y2 305Vac 10nF 20% LL=4-1mm	6,3x11,3x12,8	750	750
2222 336 16102	X1 275Vac 1,0nF 20% LL <sub>(1)</sub> =25+/-2mm	4,0x10,0x12,5	F1710-210-M3DIB0	X1/Y2 305Vac 1,0nF 20% LL=25+/-2mm	3,8x8,8x12,8	1.250	1.500
2222 336 16152	X1 275Vac 1,5nF 20% LL <sub>(1)</sub> =25+/-2mm	4,0x10,0x12,5	F1710-215-M3DIB0	X1/Y2 305Vac 1,5nF 20% LL=25+/-2mm	3,8x8,8x12,8	1.250	1.500
2222 336 16222	X1 275Vac 2,2nF 20% LL <sub>(1)</sub> =25+/-2mm	4,0x10,0x12,5	F1710-222-M3DIB0	X1/Y2 305Vac 2,2nF 20% LL=25+/-2mm	4,3x9,3x12,8	1.250	1.500
2222 336 16332	X1 275Vac 3,3nF 20% LL <sub>(1)</sub> =25+/-2mm	5,0x11,0x12,5	F1710-233-M3DIB0	X1/Y2 305Vac 3,3nF 20% LL=25+/-2mm	5,3x10,3x12,8	1.000	1.000
2222 336 16472	X1 275Vac 4,7nF 20% LL <sub>(1)</sub> =25+/-2mm	5,0x11,0x12,5	F1710-247-M3DIB0	X1/Y2 305Vac 4,7nF 20% LL=25+/-2mm	5,3x10,3x12,8	1.000	1.000
2222 336 16682	X1 275Vac 6,8nF 20% LL <sub>(1)</sub> =25+/-2mm	5,0x11,0x12,5	F1710-268-M3DIB0	X1/Y2 305Vac 6,8nF 20% LL=25+/-2mm	6,3x11,3x12,8	1.000	1.000
2222 336 16103	X1 275Vac 10nF 20% LL <sub>(1)</sub> =25+/-2mm	6,0x12,0x12,5	F1710-310-M3DIB0	X1/Y2 305Vac 10nF 20% LL=25+/-2mm	6,3x11,3x12,8	750	1.000
2222 336 13102	X1 275Vac 1,0nF 20% taped on reel (500mm)	4,0x10,0x12,5	F1710-210-M3D0W0	X1/Y2 305Vac 1,0nF 20% taped on reel (500mm)	3,8x8,8x12,8	1.400	1.500
2222 336 13152	X1 275Vac 1,5nF 20% taped on reel (500mm)	4,0x10,0x12,5	F1710-215-M3D0W0	X1/Y2 305Vac 1,5nF 20% taped on reel (500mm)	3,8x8,8x12,8	1.400	1.500
2222 336 13222	X1 275Vac 2,2nF 20% taped on reel (500mm)	4,0x10,0x12,5	F1710-222-M3D0W0	X1/Y2 305Vac 2,2nF 20% taped on reel (500mm)	4,3x9,3x12,8	1.400	1.250
2222 336 13332	X1 275Vac 3,3nF 20% taped on reel (500mm)	5,0x11,0x12,5	F1710-233-M3D0W0	X1/Y2 305Vac 3,3nF 20% taped on reel (500mm)	5,3x10,3x12,8	1.100	1.000
2222 336 13472	X1 275Vac 4,7nF 20% taped on reel (500mm)	5,0x11,0x12,5	F1710-247-M3D0W0	X1/Y2 305Vac 4,7nF 20% taped on reel (500mm)	5,3x10,3x12,8	1.100	1.000
2222 336 13682	X1 275Vac 6,8nF 20% taped on reel (500mm)	5,0x11,0x12,5	F1710-268-M3D0W0	X1/Y2 305Vac 6,8nF 20% taped on reel (500mm)	6,3x11,3x12,8	1.100	1.000
2222 336 13103	X1 275Vac 10nF 20% taped on reel (500mm)	6,0x12,0x12,5	F1710-310-M3D0W0	X1/Y2 305Vac 10nF 20% taped on reel (500mm)	6,3x11,3x12,8	900	1.000

PN 336 1 2222 ... .. or BFC2 ... ..	Description 336 1 type 10mm pitch (1): LL stand for lead length	Dimensions 336 1 wxhxl (mm)	Alternative PN F1710-3	Description F1710-3 type 10mm pitch	Dimensions F1710-3 wxhxl (mm)	old SPQ 336 1	new SPQ F1710
<b>10% tolerance products</b>							
2222 336 11102	X1 275Vac 1,0nF 10% LL=3,5+1/-0,5mm	4,0x10,0x12,5	F1710-210-K3DBB0	X1/Y2 305Vac 1,0nF 10% LL=4-1mm	3,8x8,8x12,8	1.000	1.500
2222 336 11122	X1 275Vac 1,2nF 10% LL=3,5+1/-0,5mm	4,0x10,0x12,5	F1710-212-K3DBB0	X1/Y2 305Vac 1,2nF 10% LL=4-1mm	3,8x8,8x12,8	1.000	1.500
2222 336 11152	X1 275Vac 1,5nF 10% LL=3,5+1/-0,5mm	4,0x10,0x12,5	F1710-215-K3DBB0	X1/Y2 305Vac 1,5nF 10% LL=4-1mm	3,8x8,8x12,8	1.000	1.500
2222 336 11182	X1 275Vac 1,8nF 10% LL=3,5+1/-0,5mm	4,0x10,0x12,5	F1710-218-K3DBB0	X1/Y2 305Vac 1,8nF 10% LL=4-1mm	3,8x8,8x12,8	1.000	1.500
2222 336 11222	X1 275Vac 2,2nF 10% LL=3,5+1/-0,5mm	4,0x10,0x12,5	F1710-222-K3DBB0	X1/Y2 305Vac 2,2nF 10% LL=4-1mm	4,3x9,3x12,8	1.000	1.250
2222 336 11272	X1 275Vac 2,7nF 10% LL=3,5+1/-0,5mm	5,0x11,0x12,5	F1710-227-K3DBB0	X1/Y2 305Vac 2,7nF 10% LL=4-1mm	5,3x10,3x12,8	1.000	1.000
2222 336 11332	X1 275Vac 3,3nF 10% LL=3,5+1/-0,5mm	5,0x11,0x12,5	F1710-233-K3DBB0	X1/Y2 305Vac 3,3nF 10% LL=4-1mm	5,3x10,3x12,8	1.000	1.000
2222 336 11392	X1 275Vac 3,9nF 10% LL=3,5+1/-0,5mm	5,0x11,0x12,5	F1710-239-K3DBB0	X1/Y2 305Vac 3,9nF 10% LL=4-1mm	5,3x10,3x12,8	1.000	1.000
2222 336 11472	X1 275Vac 4,7nF 10% LL=3,5+1/-0,5mm	5,0x11,0x12,5	F1710-247-K3DBB0	X1/Y2 305Vac 4,7nF 10% LL=4-1mm	5,3x10,3x12,8	1.000	1.000
2222 336 11562	X1 275Vac 5,6nF 10% LL=3,5+1/-0,5mm	5,0x11,0x12,5	F1710-256-K3DBB0	X1/Y2 305Vac 5,6nF 10% LL=4-1mm	6,3x11,3x12,8	1.000	750
2222 336 11682	X1 275Vac 6,8nF 10% LL=3,5+1/-0,5mm	5,0x11,0x12,5	F1710-268-K3DBB0	X1/Y2 305Vac 6,8nF 10% LL=4-1mm	6,3x11,3x12,8	1.000	750
2222 336 11822	X1 275Vac 8,2nF 10% LL=3,5+1/-0,5mm	6,0x12,0x12,5	F1710-282-K3DBB0	X1/Y2 305Vac 8,2nF 10% LL=4-1mm	6,3x11,3x12,8	750	750
2222 336 17102	X1 275Vac 1,0nF 10% LL=25+/-2mm	4,0x10,0x12,5	F1710-210-K3DIB0	X1/Y2 305Vac 1,0nF 10% LL=25+/-2mm	3,8x8,8x12,8	1.250	1.500
2222 336 17122	X1 275Vac 1,2nF 10% LL=25+/-2mm	4,0x10,0x12,5	F1710-212-K3DIB0	X1/Y2 305Vac 1,2nF 10% LL=25+/-2mm	3,8x8,8x12,8	1.250	1.500
2222 336 17152	X1 275Vac 1,5nF 10% LL=25+/-2mm	4,0x10,0x12,5	F1710-215-K3DIB0	X1/Y2 305Vac 1,5nF 10% LL=25+/-2mm	3,8x8,8x12,8	1.250	1.500
2222 336 17182	X1 275Vac 1,8nF 10% LL=25+/-2mm	4,0x10,0x12,5	F1710-218-K3DIB0	X1/Y2 305Vac 1,8nF 10% LL=25+/-2mm	3,8x8,8x12,8	1.250	1.500
2222 336 17222	X1 275Vac 2,2nF 10% LL=25+/-2mm	4,0x10,0x12,5	F1710-222-K3DIB0	X1/Y2 305Vac 2,2nF 10% LL=25+/-2mm	4,3x9,3x12,8	1.250	1.500
2222 336 17272	X1 275Vac 2,7nF 10% LL=25+/-2mm	5,0x11,0x12,5	F1710-227-K3DIB0	X1/Y2 305Vac 2,7nF 10% LL=25+/-2mm	5,3x10,3x12,8	1.000	1.000
2222 336 17332	X1 275Vac 3,3nF 10% LL=25+/-2mm	5,0x11,0x12,5	F1710-233-K3DIB0	X1/Y2 305Vac 3,3nF 10% LL=25+/-2mm	5,3x10,3x12,8	1.000	1.000
2222 336 17392	X1 275Vac 3,9nF 10% LL=25+/-2mm	5,0x11,0x12,5	F1710-239-K3DIB0	X1/Y2 305Vac 3,9nF 10% LL=25+/-2mm	5,3x10,3x12,8	1.000	1.000
2222 336 17472	X1 275Vac 4,7nF 10% LL=25+/-2mm	5,0x11,0x12,5	F1710-247-K3DIB0	X1/Y2 305Vac 4,7nF 10% LL=25+/-2mm	5,3x10,3x12,8	1.000	1.000
2222 336 17562	X1 275Vac 5,6nF 10% LL=25+/-2mm	5,0x11,0x12,5	F1710-256-K3DIB0	X1/Y2 305Vac 5,6nF 10% LL=25+/-2mm	6,3x11,3x12,8	1.000	1.000
2222 336 17682	X1 275Vac 6,8nF 10% LL=25+/-2mm	5,0x11,0x12,5	F1710-268-K3DIB0	X1/Y2 305Vac 6,8nF 10% LL=25+/-2mm	6,3x11,3x12,8	1.000	1.000
2222 336 17822	X1 275Vac 8,2nF 10% LL=25+/-2mm	6,0x12,0x12,5	F1710-282-K3DIB0	X1/Y2 305Vac 8,2nF 10% LL=25+/-2mm	6,3x11,3x12,8	750	1.000
2222 336 14102	X1 275Vac 1,0nF 10% taped on reel (500mm)	4,0x10,0x12,5	F1710-210-K3DBB0	X1/Y2 305Vac 1,0nF 10% taped on reel (500mm)	3,8x8,8x12,8	1.400	1.500
2222 336 14122	X1 275Vac 1,2nF 10% taped on reel (500mm)	4,0x10,0x12,5	F1710-212-K3DBB0	X1/Y2 305Vac 1,2nF 10% taped on reel (500mm)	3,8x8,8x12,8	1.400	1.500
2222 336 14152	X1 275Vac 1,5nF 10% taped on reel (500mm)	4,0x10,0x12,5	F1710-215-K3DBB0	X1/Y2 305Vac 1,5nF 10% taped on reel (500mm)	3,8x8,8x12,8	1.400	1.500
2222 336 14182	X1 275Vac 1,8nF 10% taped on reel (500mm)	4,0x10,0x12,5	F1710-218-K3DBB0	X1/Y2 305Vac 1,8nF 10% taped on reel (500mm)	3,8x8,8x12,8	1.400	1.500
2222 336 14222	X1 275Vac 2,2nF 10% taped on reel (500mm)	4,0x10,0x12,5	F1710-222-K3DBB0	X1/Y2 305Vac 2,2nF 10% taped on reel (500mm)	4,3x9,3x12,8	1.400	1.250
2222 336 14272	X1 275Vac 2,7nF 10% taped on reel (500mm)	5,0x11,0x12,5	F1710-227-K3DBB0	X1/Y2 305Vac 2,7nF 10% taped on reel (500mm)	5,3x10,3x12,8	1.100	1.000
2222 336 14332	X1 275Vac 3,3nF 10% taped on reel (500mm)	5,0x11,0x12,5	F1710-233-K3DBB0	X1/Y2 305Vac 3,3nF 10% taped on reel (500mm)	5,3x10,3x12,8	1.100	1.000
2222 336 14392	X1 275Vac 3,9nF 10% taped on reel (500mm)	5,0x11,0x12,5	F1710-239-K3DBB0	X1/Y2 305Vac 3,9nF 10% taped on reel (500mm)	5,3x10,3x12,8	1.100	1.000
2222 336 14472	X1 275Vac 4,7nF 10% taped on reel (500mm)	5,0x11,0x12,5	F1710-247-K3DBB0	X1/Y2 305Vac 4,7nF 10% taped on reel (500mm)	5,3x10,3x12,8	1.100	1.000
2222 336 14562	X1 275Vac 5,6nF 10% taped on reel (500mm)	5,0x11,0x12,5	F1710-256-K3DBB0	X1/Y2 305Vac 5,6nF 10% taped on reel (500mm)	6,3x11,3x12,8	1.100	1.000
2222 336 14682	X1 275Vac 6,8nF 10% taped on reel (500mm)	5,0x11,0x12,5	F1710-268-K3DBB0	X1/Y2 305Vac 6,8nF 10% taped on reel (500mm)	6,3x11,3x12,8	1.100	1.000
2222 336 14822	X1 275Vac 8,2nF 10% taped on reel (500mm)	6,0x12,0x12,5	F1710-282-K3DBB0	X1/Y2 305Vac 8,2nF 10% taped on reel (500mm)	6,3x11,3x12,8	900	1.000

## Interference Suppression Film Capacitors MKP Radial Potted Type

### APPLICATIONS

X1 class

### REFERENCE STANDARDS

"IEC 60384-14 2<sup>nd</sup> edition and EN 132400"

"IEC 60065, pass. flamm. class B"

250 V: CSA-C22.2 No 1; UL1414

275 V: UL1283; ENEC

### MARKING

C-value; tolerance; rated voltage; sub-class; manufacturer's type designation; code for dielectric material; manufacturer location; year and week

### DIELECTRIC

Polypropylene film

### ELECTRODES

Metallized film

### CONSTRUCTION

Mono construction

### RATED VOLTAGE

AC 275 V; 50 to 60 Hz

### PERMISSIBLE DC VOLTAGE

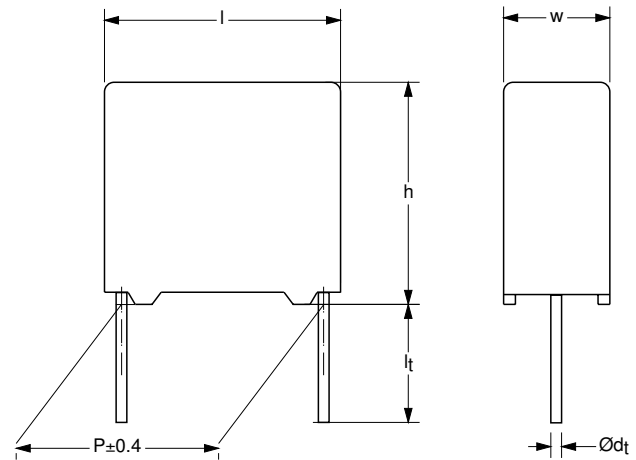
DC 630 V

### ENCAPSULATION

Plastic case, epoxy resin sealed, flame retardant UL-class 94 V-0

### CLIMATIC TESTING CLASS ACC. TO EN 60068-1

55/100/21/B



Dimensions in mm

### CAPACITANCE RANGE (E12 SERIES)

E12 series 0.001 to 1  $\mu$ F

Preferred values acc. to E6

### CAPACITANCE TOLERANCE

$\pm 20\%$ ;  $\pm 10\%$ ;  $\pm 5\%$

### LEADS

Tinned wire

### RATED TEMPERATURE

100 °C

### MAXIMUM APPLICATION TEMPERATURE

100 °C

### FEATURES

10 to 27.5 mm lead pitch. Supplied loose in box, taped on reel

### DETAIL SPECIFICATION

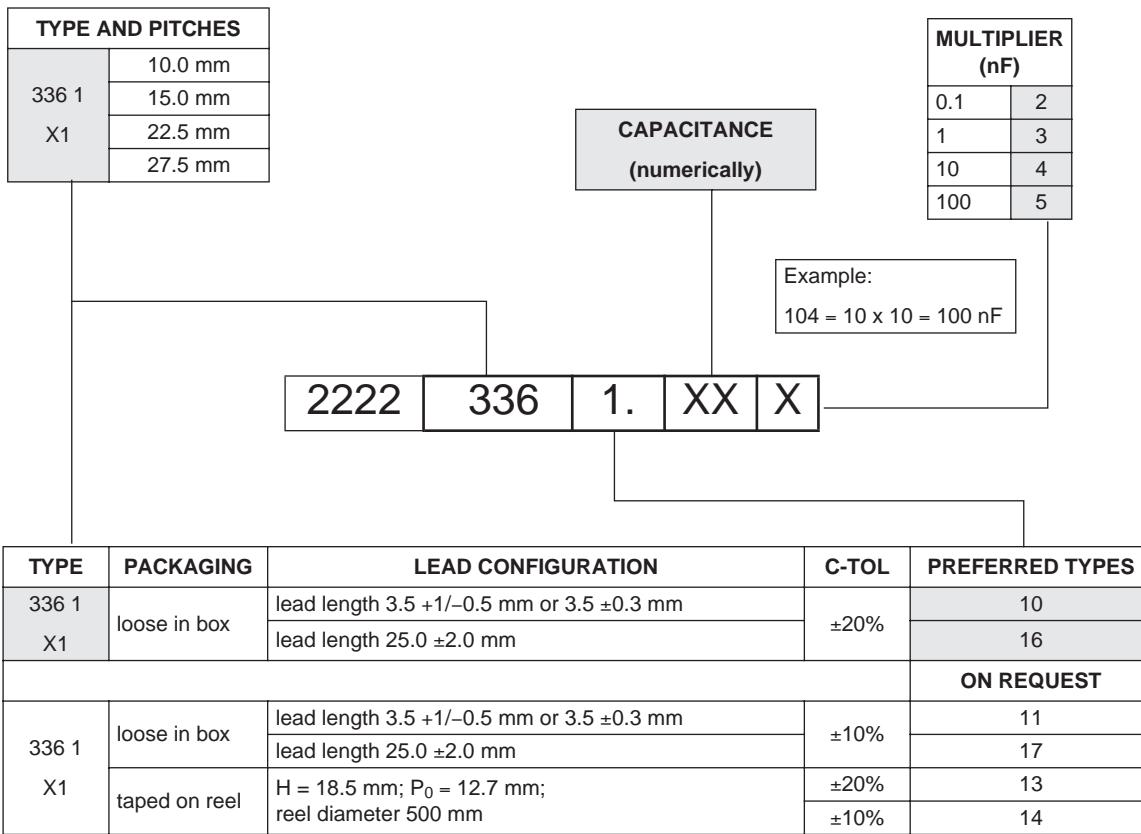
For more detailed data and test requirements see "Type detail specification HQN-384-14/108"

# MKP 336 1 X1

Vishay BCcomponents Interference Suppression Film Capacitors  
MKP Radial Potted Type



## COMPOSITION OF CATALOG NUMBER



## SPECIFIC REFERENCE DATA MKP 336 1 275 VAC

DESCRIPTION	VALUE	
Tangent of loss angle: C ≤ 100 nF 100 nF < C ≤ 470 nF C > 470 nF	at 10 kHz	at 100 kHz
	≤10 × 10 <sup>-4</sup>	≤50 × 10 <sup>-4</sup>
	≤20 × 10 <sup>-4</sup>	≤100 × 10 <sup>-4</sup>
	≤70 × 10 <sup>-4</sup>	-
Rated voltage pulse slope (dU/dt) <sub>R</sub> at 385 V (DC): P = 10 mm P = 15 mm P = 22.5 mm P = 27.5 mm	200 V/μs 500 V/μs 300 V/μs 200 V/μs	
R between leads, for C ≤ 0.33 μF at 100 V; 1 minute	>15000 MΩ	
RC between leads, for C > 0.33 μF at 100 V; 1 minute	>5000 s	
R between leads and case; 100 V; 1 minute	>30000 MΩ	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	3400 V; 1 minute	
Withstanding (AC) voltage between leads and case	2050 V; 1 minute	



$U_{Rac} = 275 V$ ;  $C\text{-tol} = \pm 20\%$

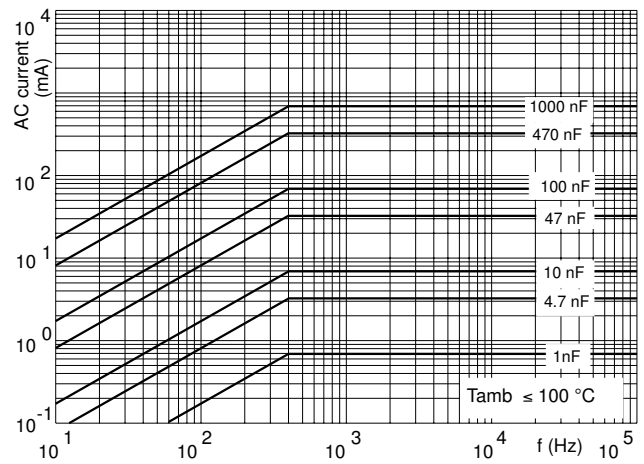
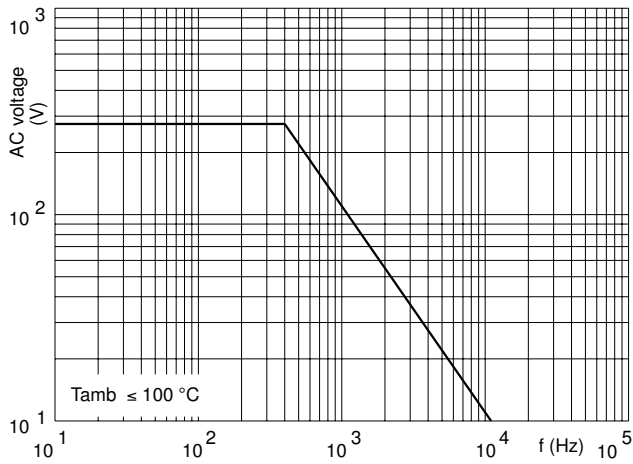
C ( $\mu F$ )	DIMENSIONS <sup>(1)</sup> w × h × l (mm)	MASS (g)	CATALOG NUMBER 336 ..... AND PACKAGING					
			LOOSE IN BOX				REEL	
			$l_t = 3.5 +1/-0.5mm^{(2)}$		$l_t = 25.0 \pm 2.0 mm$		H = 18.5 mm; P <sub>0</sub> = 12.7 mm	
			last 5 digits of catalog number	SPQ	last 5 digits of catalog number	SPQ	last 5 digits of catalog number	SPQ
<b>Pitch = 10.0 ±0.4 mm; d<sub>t</sub> = 0.60 ±0.06 mm</b>								
0.001	4.0 × 10.0 × 12.5	0.6	10102	1000	16102	1250	13102	1400
0.0015			10152		16152		13152	
0.0022			10222		16222		13222	
0.0033	5.0 × 11.0 × 12.5	0.9	10332	1000	16332	1000	13332	1100
0.0047			10472		16472		13472	
0.0068			10682		16682		13682	
0.01	6.0 × 12.0 × 12.5	1.0	10103	750	16103	750	13103	900
<b>Pitch = 15.0 ±0.4 mm; d<sub>t</sub> = 0.80 ±0.08 mm</b>								
0.01	5.0 × 11.0 × 17.5	1.2	19001	1000	19007	1000	19002	1100
0.015			10153		16153		13153	
0.022			10223		16223		13223	
0.033	6.0 × 12.0 × 17.5	1.4	10333	1000	16333	1000	13333	900
0.047	7.0 × 13.5 × 17.5	1.9	10473	1000	16473	500	13473	800
0.068	8.5 × 15.0 × 17.5	2.6	10683	1000	16683	500	13683	650
0.1	10.0 × 16.5 × 17.5	3.1	10104	500	16104	500	13104	600
<b>Pitch = 22.5 ±0.4 mm; d<sub>t</sub> = 0.80 ±0.08 mm</b>								
0.1	7.0 × 16.5 × 26.0	3.2	19003	200	19008	500	19004	550
0.15	8.5 × 18.0 × 26.0	4.4	10154	200	16154	500	13154	450
0.22	10.0 × 19.5 × 26.0	5.5	10224	200	16224	500	13224	400
<b>Pitch = 27.5 ±0.4 mm; d<sub>t</sub> = 0.80 ±0.08 mm</b>								
0.22	11.0 × 21.0 × 31.0	7.8	19005	100	19009	125		
0.33	13.0 × 23.0 × 31.0	10.4	10334	100	16334	125		
0.47	15.0 × 25.0 × 31.0	12.8	10474	100	16474	125		
0.68	18.0 × 28.0 × 31.0	17.2	10684	100	16684	125		
1	21.0 × 31.0 × 31.0	20.4	10105	50	16105	75		

**Notes**

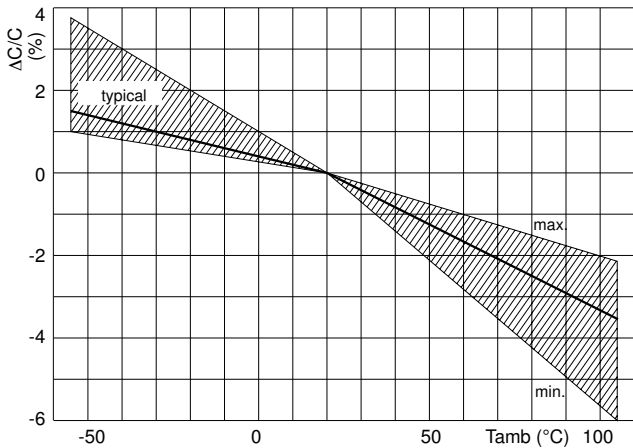
- Specified dimensions only valid for ±20% tolerance values.
- $l_t = 3.5 \pm 0.3 mm$  for pitch = 15 mm; 22.5 mm and 27.5 mm.



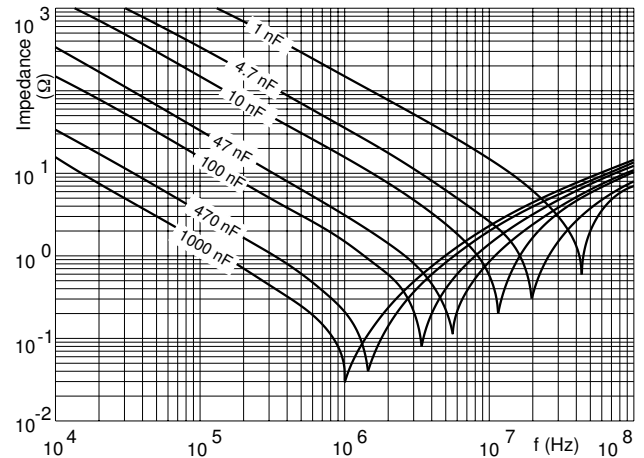
## MAXIMUM RMS VOLTAGE AND AC CURRENT (SINEWAVE) AS A FUNCTION OF FREQUENCY



## CAPACITANCE



## IMPEDANCE



## APPROVALS

COUNTRY	SPECIFICATION	ELECTRICAL VALUES	FILE NUMBERS	APPROVAL MARK
U.S.A. (for AC 250 V) (for AC 275 V)	UL1414 UL1283	1 nF to 1 $\mu\text{F}$ 1 nF to 1 $\mu\text{F}$	E112471 E109565	
Canada (for AC 250 V)	CSA-C22.2 No.1	1 nF to 1 $\mu\text{F}$	1104860 (LR 94054-6)	
CB TEST CERTIFICATE (for AC 275 V)		1 nF to 1 $\mu\text{F}$ : 55/100/21/B	DE-1-7482	
Europe (for AC 275 V)	EN132400 IEC 60384-14 2 <sup>nd</sup> edition	1 nF to 1 $\mu\text{F}$	ENEC/B01/2001	