

## AC and Pulse Metallized Polypropylene Film Capacitors MKP Radial Potted Type

### APPLICATIONS

Low losses due to low contact resistance and low loss dielectric make these products suitable for applications where high currents at high frequency occur or high stability is preferred. Their small dimensions make them ideal for circuits with high packaging density

### MARKING

C-value; tolerance; rated voltage; manufacturer's type designation; code for dielectric material; manufacturer's emblem; code for factory of origin; year and week of manufacture

### DIELECTRIC

Polypropylene film

### ELECTRODES

Metallized film

### ENCAPSULATION

Flame retardant plastic case and epoxy resin (UL-class 94 V-0)

### CONSTRUCTION

Wound mono construction

### LEADS

Tinned wire

### CAPACITANCE RANGE (E24 SERIES)

0.01 to 6.2  $\mu$ F

### CAPACITANCE TOLERANCE

$\pm$ 5%;  $\pm$ 3.5%

### RATED (DC) VOLTAGE

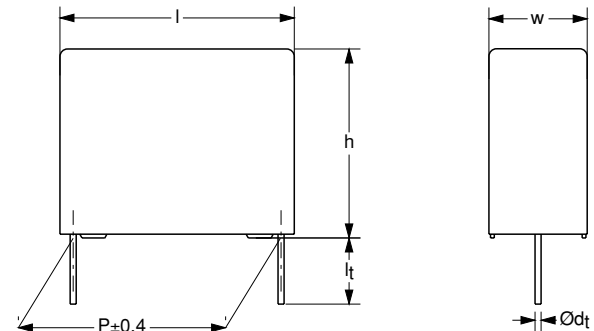
160 V; 250 V; 400 V; 630 V

### RATED (AC) VOLTAGE

100 V; 160 V; 200 V; 220 V

### RATED PEAK-TO-PEAK VOLTAGE

280 V; 450 V; 560 V; 620 V



Dimensions in mm.

### CLIMATIC CATEGORY

55/085/56

### RATED TEMPERATURE

85 °C

### MAXIMUM APPLICATION TEMPERATURE

85 °C

### REFERENCE SPECIFICATIONS

IEC 60384-17

### PERFORMANCE GRADE

Grade 1 (long life)

### STABILITY GRADE

100 V, 160 V versions: grade 2  
250 V to 630 V versions; pitch 5 to 15 mm: grade 2  
250 V to 630 V versions; pitch 22.5 and 27.5 mm: grade 1

### FEATURES

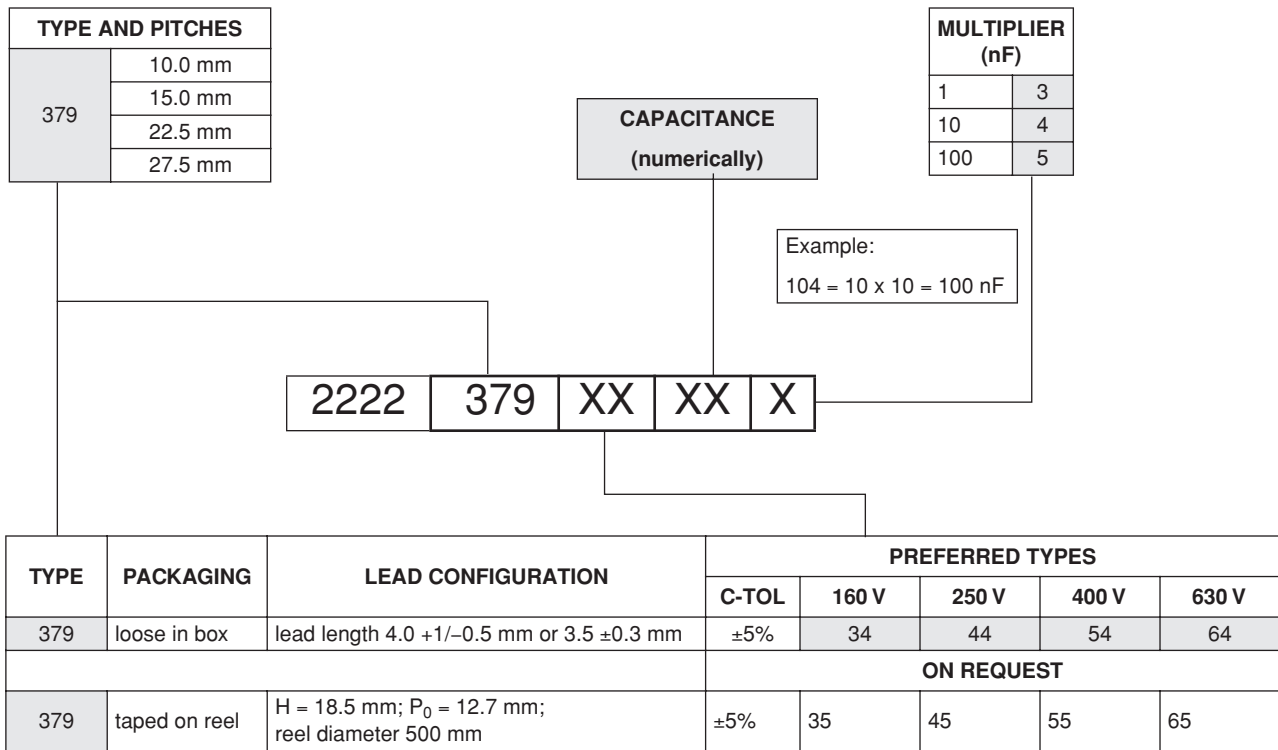
10 to 27.5 mm pitch. Supplied loose in box and taped on reel

### DETAIL SPECIFICATION

For more detailed data and test requirements see "Type detail specification HQN-384-17/103"



## COMPOSITION OF CATALOG NUMBER





**SPECIFIC REFERENCE DATA (160 VDC)**

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle:		
C ≤ 0.075 μF	≤5 × 10 <sup>-4</sup>	≤20 × 10 <sup>-4</sup>
0.075 μF < C ≤ 0.11 μF	≤5 × 10 <sup>-4</sup>	≤25 × 10 <sup>-4</sup>
0.11 μF < C ≤ 0.16 μF	≤10 × 10 <sup>-4</sup>	≤30 × 10 <sup>-4</sup>
0.18 μF < C ≤ 0.3 μF	≤10 × 10 <sup>-4</sup>	≤35 × 10 <sup>-4</sup>
0.3 μF < C ≤ 0.39 μF	≤10 × 10 <sup>-4</sup>	≤40 × 10 <sup>-4</sup>
0.39 μF < C ≤ 0.56 μF	≤10 × 10 <sup>-4</sup>	≤45 × 10 <sup>-4</sup>
0.56 μF < C ≤ 0.68 μF	≤10 × 10 <sup>-4</sup>	≤50 × 10 <sup>-4</sup>
0.68 μF < C ≤ 0.82 μF	≤10 × 10 <sup>-4</sup>	≤55 × 10 <sup>-4</sup>
0.82 μF < C ≤ 0.91 μF	≤10 × 10 <sup>-4</sup>	≤60 × 10 <sup>-4</sup>
0.91 μF < C ≤ 1.0 μF	≤10 × 10 <sup>-4</sup>	≤65 × 10 <sup>-4</sup>
1.0 μF < C ≤ 1.2 μF	≤10 × 10 <sup>-4</sup>	≤70 × 10 <sup>-4</sup>
1.2 μF < C ≤ 1.3 μF	≤10 × 10 <sup>-4</sup>	≤75 × 10 <sup>-4</sup>
1.3 μF < C ≤ 1.5 μF	≤10 × 10 <sup>-4</sup>	≤80 × 10 <sup>-4</sup>
1.5 μF < C ≤ 1.6 μF	≤10 × 10 <sup>-4</sup>	≤85 × 10 <sup>-4</sup>
1.6 μF < C ≤ 1.8 μF	≤10 × 10 <sup>-4</sup>	≤90 × 10 <sup>-4</sup>
1.8 μF < C ≤ 2.0 μF	≤10 × 10 <sup>-4</sup>	≤95 × 10 <sup>-4</sup>
2.0 μF < C ≤ 2.2 μF	≤10 × 10 <sup>-4</sup>	≤100 × 10 <sup>-4</sup>
2.2 μF < C ≤ 2.4 μF	≤15 × 10 <sup>-4</sup>	≤105 × 10 <sup>-4</sup>
2.4 μF < C ≤ 2.7 μF	≤15 × 10 <sup>-4</sup>	≤110 × 10 <sup>-4</sup>
2.7 μF < C ≤ 3.0 μF	≤15 × 10 <sup>-4</sup>	≤115 × 10 <sup>-4</sup>
3.0 μF < C ≤ 3.3 μF	≤15 × 10 <sup>-4</sup>	≤125 × 10 <sup>-4</sup>
3.3 μF < C ≤ 3.6 μF	≤15 × 10 <sup>-4</sup>	≤130 × 10 <sup>-4</sup>
3.6 μF < C ≤ 3.9 μF	≤15 × 10 <sup>-4</sup>	≤135 × 10 <sup>-4</sup>
3.9 μF < C ≤ 4.3 μF	≤15 × 10 <sup>-4</sup>	≤145 × 10 <sup>-4</sup>
4.3 μF < C ≤ 4.7 μF	≤20 × 10 <sup>-4</sup>	≤155 × 10 <sup>-4</sup>
4.7 μF < C ≤ 5.1 μF	≤20 × 10 <sup>-4</sup>	≤160 × 10 <sup>-4</sup>
5.1 μF < C ≤ 5.6 μF	≤20 × 10 <sup>-4</sup>	≤175 × 10 <sup>-4</sup>
5.6 μF < C ≤ 6.2 μF	≤20 × 10 <sup>-4</sup>	≤185 × 10 <sup>-4</sup>
Rated voltage pulse slope (dU/dt) <sub>R</sub> :		
l = 12.5 mm	60 V/μs	
l = 17.5 mm	50 V/μs	
l = 26.0 mm	25 V/μs	
l = 31.0 mm	15 V/μs (b < 15 mm)	
l = 31.0 mm	7.5 V/μs (b ≥ 15 mm)	
R between leads for C ≤ 1.0 μF at 100 V; 1 minute	>100000 MΩ	
RC between leads, for C >1 μF at 100 V; 1 minute	>100000 s	
R between interconnected leads and case; 100 V; 1 minute	>100000 MΩ	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	256 V; 1 minute	
Withstanding (DC)voltage between leads and case	2840 V; 1 minute	



$U_{Rdc} = 160\text{ V}$ ;  $U_{Rac} = 100\text{ V}$ ;  $U_{p-p} = 280\text{ V}$

C ( $\mu\text{F}$ )	DIMENSIONS w × h × l (mm)	MASS (g)	CATALOG NUMBER 2222 379 ..... AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 4.0 +1.0/-0.5\text{ mm}^{(1)}$		SPQ
			C-tol = $\pm 5\%$	SPQ	
last 5 digits of catalog number		SPQ	SPQ		
<b>Pitch = 10.0 ±0.4 mm; d<sub>t</sub> = 0.60 ±0.06 mm</b>					
0.075 0.082 0.091 0.1	4.0 × 10.0 × 12.5	0.6	34753 34823 34913 34104	1000	1400
0.11 0.12 0.13 0.15	5.0 × 11.0 × 12.5	0.85	34114 34124 34134 34154	1000	1100
0.16	6.0 × 12.0 × 12.5	1.0	34164	1000	900
<b>Pitch = 15.0 ±0.4 mm; d<sub>t</sub> = 0.80 ±0.08 mm</b>					
0.18 0.2 0.22 0.24 0.27	5.0 × 11.0 × 17.5	1.2	34184 34204 34224 34244 34274	1000	1100
0.3 0.33 0.36 0.39	6.0 × 12.0 × 17.5	1.4	34304 34334 34364 34394	1000	900
0.43 0.47 0.51	7.0 × 13.5 × 17.5	1.9	34434 34474 34514	1000	800
0.56 0.62 0.68 0.75	8.5 × 15.0 × 17.5	2.6	34564 34624 34684 34754	1000	650
<b>Pitch = 22.5 ±0.4 mm; d<sub>t</sub> = 0.80 ±0.08 mm</b>					
0.82 0.91	7.0 × 16.5 × 26.0	3.2	34824 34914	200	550
1 1.1 1.2 1.3	8.5 × 18.0 × 26.0	4.4	34105 34115 34125 34135	200	450
1.5 1.6 1.8	10.0 × 19.5 × 26.0	5.5	34155 34165 34185	200	350
<b>Pitch = 27.5 ±0.4 mm; d<sub>t</sub> = 0.80 ±0.08 mm</b>					
2 2.2 2.4	11.0 × 21.0 × 31.0	7.8	34205 34225 34245	100	
2.7 3 3.3	13.0 × 23.0 × 31.0	10.4	34275 34305 34335	100	



C ( $\mu$ F)	DIMENSIONS w x h x l (mm)	MASS (g)	CATALOG NUMBER 2222 379 ..... AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 4.0 +1.0/-0.5$ mm <sup>(1)</sup>		SPQ
			C-tol = $\pm 5\%$	SPQ	
last 5 digits of catalog number		SPQ	SPQ		
3.6	15.0 x 25.0 x 31.0	12.8	34365	100	
3.9			34395		
4.3			34435		
4.7	18.0 x 28.0 x 31.0	17.2	34475	100	
5.1			34515		
5.6			34565		
6.2			34625		

**Note**

1.  $l_t = 4.0 +1/-0.5$  mm for pitch = 10 mm and  $3.5 \pm 0.3$  mm for pitch = 15 mm; 22.5 mm and 27.5 mm.

**SPECIFIC REFERENCE DATA (250 VDC)**

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle:		
0.047 $\mu$ F < C $\leq$ 0.075 $\mu$ F	$\leq 5 \times 10^{-4}$	$\leq 20 \times 10^{-4}$
0.075 $\mu$ F < C $\leq$ 0.111 $\mu$ F	$\leq 5 \times 10^{-4}$	$\leq 25 \times 10^{-4}$
0.11 $\mu$ F < C $\leq$ 0.18 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 30 \times 10^{-4}$
0.18 $\mu$ F < C $\leq$ 0.3 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 35 \times 10^{-4}$
0.3 $\mu$ F < C $\leq$ 0.39 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 40 \times 10^{-4}$
0.39 $\mu$ F < C $\leq$ 0.56 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 40 \times 10^{-4}$
0.56 $\mu$ F < C $\leq$ 0.68 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 50 \times 10^{-4}$
0.68 $\mu$ F < C $\leq$ 0.82 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 55 \times 10^{-4}$
0.82 $\mu$ F < C $\leq$ 0.91 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 60 \times 10^{-4}$
0.91 $\mu$ F < C $\leq$ 1.0 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 65 \times 10^{-4}$
1.0 $\mu$ F < C $\leq$ 1.2 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 70 \times 10^{-4}$
1.2 $\mu$ F < C $\leq$ 1.3 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 75 \times 10^{-4}$
1.3 $\mu$ F < C $\leq$ 1.5 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 80 \times 10^{-4}$
1.5 $\mu$ F < C $\leq$ 1.6 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 85 \times 10^{-4}$
1.6 $\mu$ F < C $\leq$ 1.8 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 90 \times 10^{-4}$
1.8 $\mu$ F < C $\leq$ 2.0 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 95 \times 10^{-4}$
2.0 $\mu$ F < C $\leq$ 2.2 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 100 \times 10^{-4}$
2.2 $\mu$ F < C $\leq$ 2.4 $\mu$ F	$\leq 15 \times 10^{-4}$	$\leq 105 \times 10^{-4}$
2.4 $\mu$ F < C $\leq$ 2.7 $\mu$ F	$\leq 15 \times 10^{-4}$	$\leq 110 \times 10^{-4}$
2.7 $\mu$ F < C $\leq$ 3.0 $\mu$ F	$\leq 15 \times 10^{-4}$	$\leq 115 \times 10^{-4}$
3.0 $\mu$ F < C $\leq$ 3.3 $\mu$ F	$\leq 15 \times 10^{-4}$	$\leq 125 \times 10^{-4}$
3.3 $\mu$ F < C $\leq$ 3.6 $\mu$ F	$\leq 15 \times 10^{-4}$	$\leq 130 \times 10^{-4}$
3.6 $\mu$ F < C $\leq$ 3.9 $\mu$ F	$\leq 15 \times 10^{-4}$	$\leq 135 \times 10^{-4}$
Rated voltage pulse slope (dU/dt) <sub>R</sub> :		
l = 12.5 mm	70 V/ $\mu$ s	
l = 17.5 mm	60 V/ $\mu$ s	
l = 26.0 mm	30 V/ $\mu$ s	
l = 31.0 mm	20 V/ $\mu$ s (b < 15 mm)	
l = 31.0 mm	10 V/ $\mu$ s (b $\geq$ 15 mm)	
R between leads for C $\leq$ 1.0 $\mu$ F at 100 V; 1 minute	>100000 M $\Omega$	
RC between leads, for C >1 $\mu$ F at 100 V; 1 minute	>100000 s	
R between interconnected leads and case; 100 V; 1 minute	>100000 M $\Omega$	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	400 V; 1 minute	
Withstanding (DC)voltage between leads and case	2840 V; 1 minute	



$U_{Rdc} = 250\text{ V}$ ;  $U_{Rac} = 160\text{ V}$ ;  $U_{p-p} = 450\text{ V}$

C ( $\mu\text{F}$ )	DIMENSIONS w × h × l (mm)	MASS (g)	CATALOG NUMBER 2222 379 ..... AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 4.0 +1.0/-0.5\text{ mm}^{(1)}$		SPQ
			C-tol = $\pm 5\%$	SPQ	
last 5 digits of catalog number		SPQ	SPQ		
<b>Pitch = 10.0 ±0.4 mm; <math>d_t = 0.60 \pm 0.06\text{ mm}</math></b>					
0.047	4.0 × 10.0 × 12.5	0.6	44473	1000	1400
0.051			44513		
0.056			44563		
0.062			44623		
0.068			44683		
0.075	5.0 × 11.0 × 12.5	0.85	44753	1000	1100
0.082			44823		
0.091			44913		
<b>Pitch = 15.0 ±0.4 mm; <math>d_t = 0.80 \pm 0.08\text{ mm}</math></b>					
0.1	5.0 × 11.0 × 17.5	1.2	44104	1000	1100
0.11			44114		
0.12			44124		
0.13			44134		
0.15			44154		
0.16			44164		
0.18	6.0 × 12.0 × 17.5	1.4	44184	1000	900
0.2			44204		
0.22			44224		
0.24			44244		
0.27	7.0 × 13.5 × 17.5	1.9	44274	1000	800
0.3			44304		
0.33			44334		
0.36	8.5 × 15.0 × 17.5	2.6	44364	1000	650
0.39			44394		
0.43			44434		
0.47			44474		
<b>Pitch = 22.5 ±0.4 mm; <math>d_t = 0.80 \pm 0.08\text{ mm}</math></b>					
0.51	7.0 × 16.5 × 26.0	3.2	44514	200	550
0.56			44564		
0.62			44624		
0.68	8.5 × 18.0 × 26.0	4.4	44684	200	450
0.75			44754		
0.82			44824		
0.91			44914		
1	10.0 × 19.5 × 26.0	5.5	44105	200	350
1.1			44115		
1.2			44125		
<b>Pitch = 27.5 ±0.4 mm; <math>d_t = 0.80 \pm 0.08\text{ mm}</math></b>					
1.3	11.0 × 21.0 × 31.0	7.8	44135	100	
1.5			44155		
1.6			44165		
1.8	13.0 × 23.0 × 31.0	10.4	44185	100	
2			44205		
2.2			44225		



C ( $\mu\text{F}$ )	DIMENSIONS w x h x l (mm)	MASS (g)	CATALOG NUMBER 2222 379 ..... AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 4.0 +1.0/-0.5 \text{ mm}^{(1)}$		SPQ
			C-tol = $\pm 5\%$	SPQ	
last 5 digits of catalog number		SPQ	SPQ		
2.4 2.7	15.0 x 25.0 x 31.0	12.8	44245 44275	100	
3 3.3 3.6 3.9	18.0 x 28.0 x 31.0	17.2	44305 44335 44365 44395	100	

**Note**

1.  $l_t = 4.0 +1/-0.5 \text{ mm}$  for pitch = 10 mm and  $3.5 \pm 0.3 \text{ mm}$  for pitch = 15 mm; 22.5 mm and 27.5 mm.

**SPECIFIC REFERENCE DATA (400 VDC)**

DESCRIPTION	VALUE	
Tangent of loss angle:	at 10 kHz	at 100 kHz
0.022 $\mu\text{F} < C \leq 0.027 \mu\text{F}$	$\leq 5 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
0.027 $\mu\text{F} < C \leq 0.075 \mu\text{F}$	$\leq 5 \times 10^{-4}$	$\leq 20 \times 10^{-4}$
0.075 $\mu\text{F} < C \leq 0.11 \mu\text{F}$	$\leq 5 \times 10^{-4}$	$\leq 25 \times 10^{-4}$
0.11 $\mu\text{F} < C \leq 0.18 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 30 \times 10^{-4}$
0.18 $\mu\text{F} < C \leq 0.3 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 35 \times 10^{-4}$
0.3 $\mu\text{F} < C \leq 0.39 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 40 \times 10^{-4}$
0.39 $\mu\text{F} < C \leq 0.56 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 45 \times 10^{-4}$
0.56 $\mu\text{F} < C \leq 0.68 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 50 \times 10^{-4}$
0.68 $\mu\text{F} < C \leq 0.82 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 55 \times 10^{-4}$
0.82 $\mu\text{F} < C \leq 0.91 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 60 \times 10^{-4}$
0.91 $\mu\text{F} < C \leq 1.0 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 65 \times 10^{-4}$
1.0 $\mu\text{F} < C \leq 1.2 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 70 \times 10^{-4}$
1.2 $\mu\text{F} < C \leq 1.3 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 75 \times 10^{-4}$
1.3 $\mu\text{F} < C \leq 1.5 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 80 \times 10^{-4}$
1.5 $\mu\text{F} < C \leq 1.6 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 85 \times 10^{-4}$
1.6 $\mu\text{F} < C \leq 1.8 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 90 \times 10^{-4}$
1.8 $\mu\text{F} < C \leq 2.0 \mu\text{F}$	$\leq 10 \times 10^{-4}$	$\leq 95 \times 10^{-4}$
Rated voltage pulse slope (dU/dt) <sub>R</sub> :		
l = 12.5 mm	80 V/ $\mu\text{s}$	
l = 17.5 mm	70 V/ $\mu\text{s}$	
l = 26.0 mm	35 V/ $\mu\text{s}$	
l = 31.0 mm	25 V/ $\mu\text{s}$ (b < 15 mm)	
l = 31.0 mm	13 V/ $\mu\text{s}$ (b $\geq$ 15 mm)	
R between leads for C $\leq$ 1.0 $\mu\text{F}$ at 100 V; 1 minute	>100000 M $\Omega$	
RC between leads, for C >1 $\mu\text{F}$ at 100 V; 1 minute	>100000 s	
R between interconnected leads and case; 100 V; 1 minute	>100000 M $\Omega$	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	640 V; 1 minute	
Withstanding (DC)voltage between leads and case	2840 V; 1 minute	



$U_{Rdc} = 400\text{ V}$ ;  $U_{Rac} = 200\text{ V}$ ;  $U_{p-p} = 560\text{ V}$

C ( $\mu\text{F}$ )	DIMENSIONS w × h × l (mm)	MASS (g)	CATALOG NUMBER 2222 379 ..... AND PACKAGING				
			LOOSE IN BOX		REEL		
			$l_t = 4.0 +1.0/-0.5\text{ mm}^{(1)}$			SPQ	SPQ
			C-tol = $\pm 5\%$	last 5 digits of catalog number	SPQ		
<b>Pitch = 10.0 <math>\pm 0.4</math> mm; <math>d_t = 0.60 \pm 0.06</math> mm</b>							
0.022	4.0 × 10.0 × 12.5	0.6	54223	1000	1400		
0.024			54243				
0.027			54273				
0.03			54303				
0.033			54333				
0.036	5.0 × 11.0 × 12.5	0.85	54363	1000	1100		
0.039			54393				
0.043			54433				
<b>Pitch = 15.0 <math>\pm 0.4</math> mm; <math>d_t = 0.80 \pm 0.08</math> mm</b>							
0.047	5.0 × 11.0 × 17.5	1.2	54473	1000	1100		
0.051			54513				
0.056			54563				
0.062			54623				
0.068			54683				
0.075			54753				
0.082			54823				
0.091	6.0 × 12.0 × 17.5	1.4	54913	1000	900		
0.1			54104				
0.11			54114				
0.12			54124				
0.13	7.0 × 13.5 × 17.5	1.9	54134	1000	800		
0.15			54154				
0.16			54164				
0.18	8.5 × 15.0 × 17.5	2.6	54184	1000	650		
0.2			54204				
0.22			54224				
<b>Pitch = 22.5 <math>\pm 0.4</math> mm; <math>d_t = 0.80 \pm 0.08</math> mm</b>							
0.24	7.0 × 16.5 × 26.0	3.2	54244	200	550		
0.27			54274				
0.3			54304				
0.33	8.5 × 18.0 × 26.0	4.4	54334	200	450		
0.36			54364				
0.39			54394				
0.43			54434				
0.47			54474				
0.51	10.0 × 19.5 × 26.0	5.5	54514	200	350		
0.56			54564				
0.62			54624				
<b>Pitch = 27.5 <math>\pm 0.4</math> mm; <math>d_t = 0.80 \pm 0.08</math> mm</b>							
0.68	11.0 × 21.0 × 31.0	7.8	54684	100			
0.75			54754				
0.82			54824				





C ( $\mu$ F)	DIMENSIONS w x h x l (mm)	MASS (g)	CATALOG NUMBER 2222 379 ..... AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 4.0 +1.0/-0.5 \text{ mm}^{(1)}$		SPQ
			C-tol = $\pm 5\%$	SPQ	
last 5 digits of catalog number		SPQ	SPQ		
0.91	13.0 x 23.0 x 31.0	10.4	54914	100	
1			54105		
1.1			54115		
1.2	15.0 x 25.0 x 31.0	12.8	54125	100	
1.3			54135		
1.5			54155		
1.6	18.0 x 28.0 x 31.0	17.2	54165	100	
1.8			54185		
2			54205		

**Note**

1.  $l_t = 4.0 +1/-0.5 \text{ mm}$  for pitch = 10 mm and  $3.5 \pm 0.3 \text{ mm}$  for pitch = 15 mm; 22.5 mm and 27.5 mm.

**SPECIFIC REFERENCE DATA (630 VDC)**

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle:		
0.01 $\mu$ F $\leq$ C $\leq$ 0.027 $\mu$ F	$\leq 5 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
0.027 $\mu$ F < C $\leq$ 0.075 $\mu$ F	$\leq 5 \times 10^{-4}$	$\leq 20 \times 10^{-4}$
0.075 $\mu$ F < C $\leq$ 0.11 $\mu$ F	$\leq 5 \times 10^{-4}$	$\leq 25 \times 10^{-4}$
0.11 $\mu$ F < C $\leq$ 0.18 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 30 \times 10^{-4}$
0.18 $\mu$ F < C $\leq$ 0.3 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 35 \times 10^{-4}$
0.3 $\mu$ F < C $\leq$ 0.39 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 40 \times 10^{-4}$
0.39 $\mu$ F < C $\leq$ 0.56 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 45 \times 10^{-4}$
0.56 $\mu$ F < C $\leq$ 0.68 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 50 \times 10^{-4}$
0.68 $\mu$ F < C $\leq$ 0.82 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 55 \times 10^{-4}$
0.82 $\mu$ F < C $\leq$ 1.0 $\mu$ F	$\leq 10 \times 10^{-4}$	$\leq 60 \times 10^{-4}$
Rated voltage pulse slope (dU/dt) <sub>R</sub>		
l = 12.5 mm	100 V/ $\mu$ s	
l = 17.5 mm	90 V/ $\mu$ s	
l = 26.0 mm	45 V/ $\mu$ s	
l = 31.0 mm	30 V/ $\mu$ s (b < 15 mm)	
l = 31.0 mm	15 V/ $\mu$ s (b $\geq$ 15 mm)	
R between leads for C $\leq$ 1.0 $\mu$ F at 500 V; 1 minute	>100000 M $\Omega$	
RC between leads, for C >1 $\mu$ F at 100 V; 1 minute	>100000 s	
R between interconnected leads and case; 500 V; 1 minute	>100000 M $\Omega$	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	960 V; 1 minute	
Withstanding (DC)voltage between leads and case	2840 V; 1 minute	



$U_{Rdc} = 630\text{ V}$ ;  $U_{Rac} = 220\text{ V}$ ;  $U_{p-p} = 620\text{ V}$

C ( $\mu\text{F}$ )	DIMENSIONS w × h × l (mm)	MASS (g)	CATALOG NUMBER 2222 379 ..... AND PACKAGING			
			LOOSE IN BOX		REEL	
			$l_t = 4.0 +1.0/-0.5\text{ mm}^{(2)}$		SPQ	SPQ
			C-tol = $\pm 5\%$	last 5 digits of catalog number		
<b>Pitch = 10.0 <math>\pm 0.4</math> mm; <math>d_t = 0.60 \pm 0.06</math> mm</b>						
0.01	4.0 × 10.0 × 12.5	0.6	64103	1000	1400	
0.011			64113			
0.012			64123			
0.013			64133			
0.015			64153			
0.016			64163			
0.018	5.0 × 11.0 × 12.5	0.85	64183	1000	1100	
0.02			64203			
0.022			64223			
0.024			64243			
<b>Pitch = 15.0 <math>\pm 0.4</math> mm; <math>d_t = 0.80 \pm 0.08</math> mm</b>						
0.027	5.0 × 11.0 × 17.5	1.2	64273	1000	1100	
0.03			64303			
0.033			64333			
0.036			64363			
0.039			64393			
0.043	6.0 × 12.0 × 17.5	1.4	64433	1000	900	
0.047			64473			
0.051			64513			
0.056			64563			
0.062			64623			
0.068	7.0 × 13.5 × 17.5	1.9	64683	1000	800	
0.075			64753			
0.082			64823			
0.091	8.5 × 15.0 × 17.5	2.6	64913	1000	650	
0.1			64104			
0.11			64114			
<b>Pitch = 22.5 <math>\pm 0.4</math> mm; <math>d_t = 0.80 \pm 0.08</math> mm</b>						
0.12	7.0 × 16.5 × 26.0	3.2	64124	200	550	
0.13			64134			
0.15			64154			
0.16			64164			
0.18	8.5 × 18.0 × 26.0	4.4	64184	200	450	
0.2			64204			
0.22			64224			
0.24	10.0 × 19.5 × 26.0	5.5	64244	200	350	
0.27			64274			
0.3			64304			

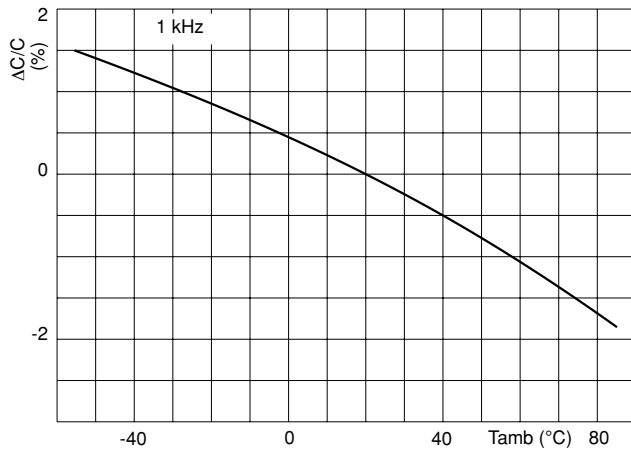


C ( $\mu\text{F}$ )	DIMENSIONS w x h x l (mm)	MASS (g)	CATALOG NUMBER 2222 379 ..... AND PACKAGING			
			LOOSE IN BOX		REEL	
			$l_t = 4.0 +1.0/-0.5 \text{ mm}^{(2)}$		SPQ	SPQ
			C-tol = $\pm 5\%$	last 5 digits of catalog number		
<b>Pitch = <math>27.5 \pm 0.4 \text{ mm}</math>; <math>d_t = 0.80 \pm 0.08 \text{ mm}</math></b>						
0.33 0.36 0.39 0.43	11.0 x 21.0 x 31.0	7.8	64334 64364 64394 64434	100		
0.47 0.51 0.56	13.0 x 23.0 x 31.0	10.4	64474 64514 64564	100		
0.62 0.68 0.75	15.0 x 25.0 x 31.0	12.8	64624 64684 64754	100		
0.82 0.91 1	18.0 x 28.0 x 31.0	17.2	64824 64914 64105	100		

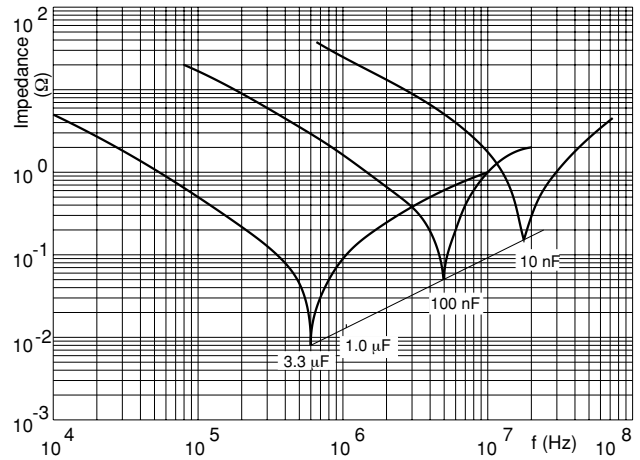
**Note**

- $U_{\text{Rac}} = 250 \text{ V}/U_{\text{p-p}} = 700 \text{ V}$  for  $C > 0.11 \mu\text{F}$ .
- $l_t = 4.0 +1/-0.5 \text{ mm}$  for pitch = 10 mm and  $3.5 \pm 0.3 \text{ mm}$  for pitch = 15 mm; 22.5 mm and 27.5 mm.

**CAPACITANCE**



**IMPEDANCE**



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

