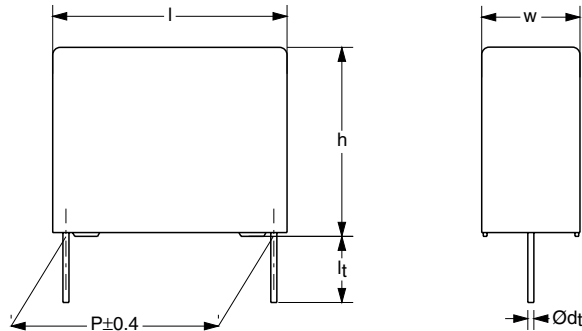


## AC and Pulse Metallized Polypropylene Film Capacitors KP/MMKP Radial Potted Type



Dimensions in mm

### APPLICATIONS

Where high currents and steep pulses occur. Power supplies

### 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 and aluminium foil

### ENCAPSULATION

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

### CONSTRUCTION

Internal serial construction

### LEADS

Tinned wire

### CAPACITANCE RANGE (E24 SERIES)

0.0047 to 0.27  $\mu$ F

### FEATURES

15 to 27.5 mm pitch. Supplied loose and taped on reel

Lead (Pb)-free product

RoHS-compliant product

### CAPACITANCE TOLERANCE

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

### RATED (DC) VOLTAGE

630 V; 1000 V

### RATED (AC) VOLTAGE

300 V; 400 V

### RATED PEAK-TO-PEAK VOLTAGE

850 V; 1100 V

### CLIMATIC CATEGORY

55/100/56

### RATED TEMPERATURE

85 °C

### MAXIMUM APPLICATION TEMPERATURE

100 °C

### REFERENCE SPECIFICATIONS

IEC 60384-17

### PERFORMANCE GRADE

for  $C > 4.7$  nF: grade 1 (long life)

for  $C \leq 4.7$  nF: grade 2

### STABILITY GRADE

Grade 2

### DETAIL SPECIFICATION

For more detailed data and test requirements see "Type detail specification HQN-384-17/101"



**RoHS**  
COMPLIANT

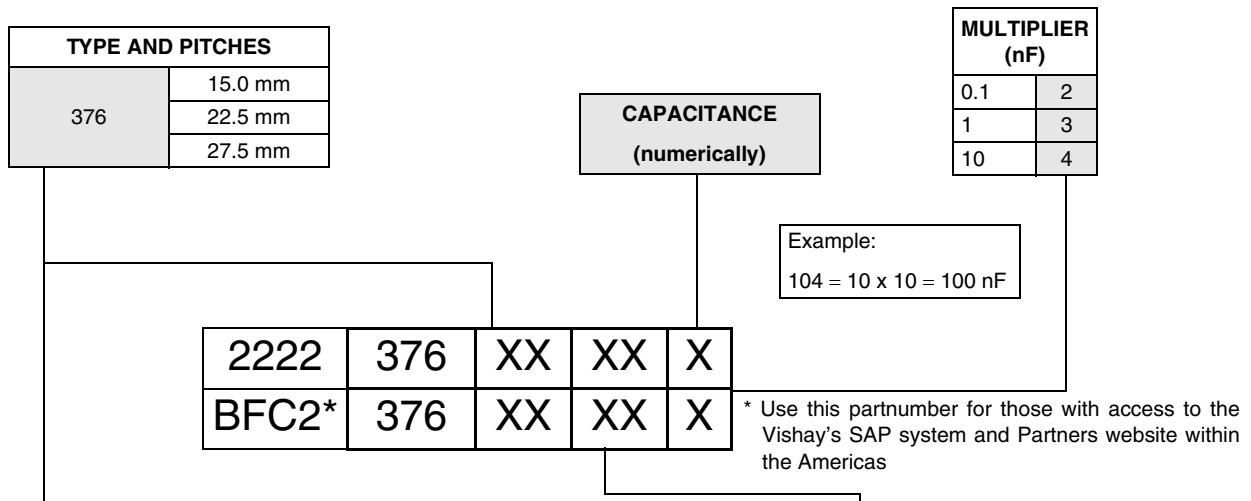
# KP/MMKP 376

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## COMPOSITION OF CATALOG NUMBER



TYPE	PACKAGING	LEAD CONFIGURATION	ON REQUEST		
			C-TOL	630 V	1000 V
<b>376</b>	loose in box	lead length 5.0 ± 1.0 mm	± 5 %	62	72
			± 3.5 %	63	73
		lead length 3.5 ± 0.3 mm	± 5 %	68	78
			± 3.5 %	69	79
	taped on reel	H = 18.5 mm; P <sub>0</sub> = 12.7 mm; reel diameter 500 mm	± 5 %	65	75
			± 3.5 %	66	76

## SPECIFIC REFERENCE DATA (630 VDC)

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle:		
P = 15.0 mm	$\leq 3 \times 10^{-4}$	$\leq 10 \times 10^{-4}$
P = 22.5 mm	$\leq 3 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
P = 27.5 mm	$\leq 4 \times 10^{-4}$	$\leq 20 \times 10^{-4}$
Rated voltage pulse slope (dU/dt) <sub>R</sub> :		
P = 15.0 mm	4000 V/μs	
P = 22.5 mm	1400 V/μs	
P = 27.5 mm	900 V/μs	
R between leads at 500 V; 1 minute	> 100000 MΩ	
R between interconnected leads and case; 500 V; 1 minute	> 100000 MΩ	
Ionization (AC) voltage (typical value) at 50 pC peak discharge	> 400 V	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s	1008 V; 1 minute	
Withstanding (DC)voltage between leads and case	2840 V; 1 minute	



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$U_{Rdc} = 630 \text{ V}$ ;  $U_{Rac} = 300 \text{ V}$ ;  $U_{p-p} = 850 \text{ V}$

C ( $\mu\text{F}$ )	DIMENSIONS W × H × L (mm)	MASS (g)	CATALOG NUMBER 2222 376 ..... AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 5.0 \pm 1.0 \text{ mm}$	ALL LEADS	
			C-tol = $\pm 5 \%$	SPQ	SPQ
LAST 5 DIGITS OF CATALOG NUMBER					
<b>Pitch = <math>15.0 \pm 0.4 \text{ mm}</math>; <math>d_t = 0.60 \pm 0.06 \text{ mm}</math></b>					
0.0068 0.0075 0.0082 0.0091	5.0 × 11.0 × 17.5	1.1	62682	1000	1100
			62752		
			62822		
			62912		
0.01 0.011 0.012 0.013	6.0 × 12.0 × 17.5	1.5	62103	1000	900
			62113		
			62123		
			62133		
<b>Pitch = <math>15.0 \pm 0.4 \text{ mm}</math>; <math>d_t = 0.80 \pm 0.08 \text{ mm}</math></b>					
0.015 0.016 0.018	7.0 × 13.5 × 17.5	2.0	62153	1000	800
			62163		
			62183		
0.02 0.022	8.5 × 15.0 × 17.5	2.6	62203	1000	650
			62223		
<b>Pitch = <math>22.5 \pm 0.4 \text{ mm}</math>; <math>d_t = 0.80 \pm 0.08 \text{ mm}</math></b>					
0.024 0.027 0.03	6.0 × 15.5 × 26.0	2.8	62243	300	600
			62273		
			62303		
0.033 0.036 0.039	7.0 × 16.5 × 26.0	3.5	62333	200	550
			62363		
			62393		
0.043 0.047 0.051 0.056	8.5 × 18.0 × 26.0	4.5	62433	200	450
		4.5	62473		
		4.5	62513		
		5.1	62563		
<b>Pitch = <math>27.5 \pm 0.4 \text{ mm}</math>; <math>d_t = 0.80 \pm 0.08 \text{ mm}</math></b>					
0.062 0.068 0.075	9.0 × 19.0 × 31.0	6.2	62623	100	
			62683		
			62753		
0.082 0.091 0.1 0.11	11.0 × 21.0 × 31.0	8.3	62823	100	
			62913		
			62104		
			62114		
0.12 0.13 0.15 0.16	13.0 × 23.0 × 31.0	10.8	62124	100	
			62134		
			62154		
			62164		
0.18 0.2	15.0 × 25.0 × 31.0	13.0	62184	100	
			62204		
0.22 0.24 0.27	18.0 × 28.0 × 31.0	19.0	62224	100	
			62244		
			62274		

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## SPECIFIC REFERENCE DATA (630 VDC)

DESCRIPTION	VALUE	
	at 10 kHz	at 100 kHz
Tangent of loss angle:		
P = 15.0 mm	$\leq 3 \times 10^{-4}$	$\leq 10 \times 10^{-4}$
P = 22.5 mm	$\leq 3 \times 10^{-4}$	$\leq 10 \times 10^{-4}$
P = 27.5 mm	$\leq 3 \times 10^{-4}$	$\leq 15 \times 10^{-4}$
Rated voltage pulse slope (dU/dt) <sub>R</sub> :		
P = 15.0 mm	7000 V/μs	
P = 22.5 mm	2500 V/μs	
P = 27.5 mm	1600 V/μs	
R between leads at 500 V; 1 minute	> 100000 MΩ	
R between interconnected leads and case; 500 V; 1 minute	> 100000 MΩ	
Ionization (AC) voltage (typical value) at 50 pC peak discharge	> 500 V	
Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s for C ≤ 47 nF for C > 47 nF	1600 V; 1 minute [1, 6 - (0, 0364 · √C - 47)] × 1000V ; 1 minute	
Withstanding (DC)voltage between leads and case	2840 V; 1 minute	

**U<sub>Rdc</sub> = 1000 V; U<sub>Rac</sub> = 400 V/U<sub>p-p</sub> = 1100 V**

C (μF)	DIMENSIONS W × H × L (mm)	MASS (g)	CATALOG NUMBER 2222 376 ..... AND PACKAGING		
			LOOSE IN BOX		REEL
			l <sub>t</sub> = 5.0 ± 1.0 mm	ALL LEADS	
			C-tol = ± 5 %	SPQ	SPQ
LAST 5 DIGITS OF CATALOG NUMBER					
<b>Pitch = 15.0 ± 0.4 mm; d<sub>t</sub> = 0.60 ± 0.06 mm</b>					
0.0047	5.0 × 11.0 × 17.5	1.1	72472	1000	1100
0.0051			72512		
0.0056			72562		
0.0062	6.0 × 12.0 × 17.5	1.5	72622	1000	900
0.0068			72682		
0.0075			72752		
0.0082			72822		
<b>Pitch = 15.0 ± 0.4 mm; d<sub>t</sub> = 0.80 ± 0.08 mm</b>					
0.0091	7.0 × 13.5 × 17.5	2.0	72912	1000	800
0.01			72103		
0.011			72113		
0.012			72123		
<b>Pitch = 22.5 ± 0.4 mm; d<sub>t</sub> = 0.80 ± 0.08 mm</b>					
0.013	6.0 × 15.5 × 26.0	2.8	72133	300	600
0.015	7.0 × 16.5 × 26.0	3.5	72153	200	550
0.016			72163		
0.018			72183		



C ( $\mu$ F)	DIMENSIONS W × H × L (mm)	MASS (g)	CATALOG NUMBER 2222 376 ..... AND PACKAGING		
			LOOSE IN BOX		REEL
			$l_t = 5.0 \pm 1.0$ mm	ALL LEADS	
			C-tol = $\pm 5$ %	SPQ	SPQ
LAST 5 DIGITS OF CATALOG NUMBER					
0.02 0.022 0.024 0.027 0.03 0.033 0.036	8.5 × 18.0 × 26.0	4.5	72203 72223 72243 72273 72303 72333 72363	200	450
0.039	10.0 × 19.5 × 26.0	5.4	72393	200	350
<b>Pitch = 27.5 ± 0.4 mm; <math>d_t = 0.80 \pm 0.08</math> mm</b>					
0.043 0.047 0.051	9.0 × 19.0 × 31.0	6.2	72433 72473 72513	100	
0.056 0.062 0.068 0.075	11.0 × 21.0 × 31.0	8.3	72563 72623 72683 72753	100	
0.082 0.091 0.1	13.0 × 23.0 × 31.0	10.8	72823 72913 72104	100	
0.11 0.12 0.13 0.15	15.0 × 25.0 × 31.0	13.0	72114 72124 72134 72154	100	
0.16 0.18	18.0 × 28.0 × 31.0	19.0	72164 72184	100	



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