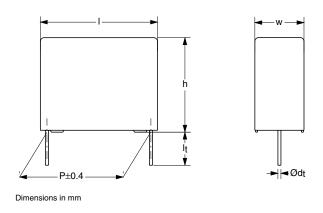




# AC and Pulse Metallized Polypropylene Film Capacitors KP/MMKP Radial Potted Type



#### **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  $\mu\text{F}$ 

#### **FEATURES**

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

Lead (Pb)-free product

RoHS-compliant product





RoHS

#### **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  $C \le 4.7$  nF: grade 2

#### **STABILITY GRADE**

Grade 2

#### **DETAIL SPECIFICATION**

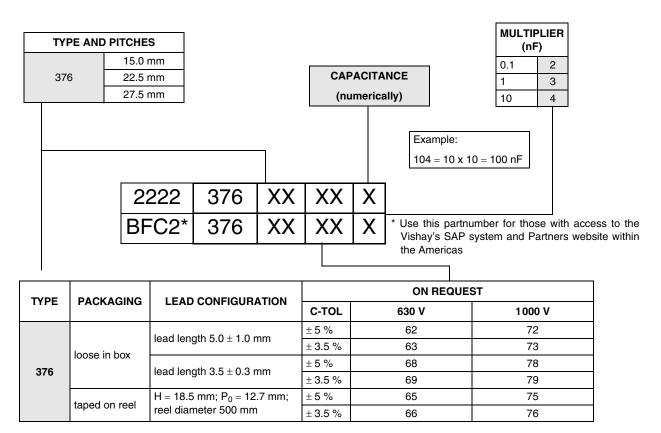
For more detailed data and test requirements see "Type detail specification HQN-384-17/101"

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



#### **COMPOSITION OF CATALOG NUMBER**



#### **SPECIFIC REFERENCE DATA (630 VDC)**

DESCRIPTION	VALUE		
Tangent of loss angle:	at 10 kHz	at 100 kHz	
P = 15.0 mm	≤ 3 × 10 <sup>-4</sup>	≤ 10 × 10 <sup>-4</sup>	
P = 22.5 mm	$\leq 3 \times 10^{-4}$	≤ 15 × 10 <sup>-4</sup>	
P = 27.5 mm	$\leq 4 \times 10^{-4}$	≤ 20 × 10 <sup>-4</sup>	
Rated voltage pulse slope (dU/dt) <sub>R</sub> :			
P = 15.0 mm	4000	0 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 M $\Omega$		
Ionization (AC) voltage (typical value) at 50 pC peak discharge	> 4	00 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	





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

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

			CATALOG NUMBER 2222 376 AND PACKAGING			
C DIMENSIO W × H × I (mm)			LOOSE IN B	юх	REEL	
	DIMENSIONS W × H × I	MASS	$I_t = 5.0 \pm 1.0 \; \text{mm}$	ALL LEADS		
		(g)	C-tol = ± 5 %			
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ	SPQ	
Pitch = 15.0 ± 0.4 mi	m; $d_t = 0.60 \pm 0.06$ mm					
0.0068			62682			
0.0075	50 110 175		62752	1000	1100	
0.0082	$5.0 \times 11.0 \times 17.5$	1.1	62822	1000	1100	
0.0091			62912			
0.01			62103			
0.011			62113			
0.012	$6.0 \times 12.0 \times 17.5$	1.5	62123	1000	900	
0.013			62133			
	m; d <sub>t</sub> = 0.80 ± 0.08 mm		52.50	1		
0.015	,		62153			
0.016	7.0 × 13.5 × 17.5	2.0	62163	1000	800	
0.018	7.0 ^ 10.3 ^ 17.3	2.0	62183	1000	300	
0.018			62203			
0.022	$8.5\times15.0\times17.5$	2.6	62223	1000	650	
	m; $d_t = 0.80 \pm 0.08$ mm		02223	1		
		<del> </del>	60040	<u> </u>		
0.024	00 155 000	0.0	62243	000	000	
0.027	$6.0\times15.5\times26.0$	2.8	62273	300	600	
0.03			62303			
0.033	70 405 000	0.5	62333		550	
0.036	$7.0\times16.5\times26.0$	3.5	62363	200	550	
0.039			62393			
0.043		4.5	62433			
0.047	$8.5\times18.0\times26.0$	4.5	62473	200	450	
0.051		4.5	62513			
0.056		5.1	62563			
Pitch = 27.5 ± 0.4 mi	m; $d_t = 0.80 \pm 0.08$ mm					
0.062			62623			
0.068	$9.0\times19.0\times31.0$	6.2	62683	100		
0.075			62753			
0.082		T	62823			
0.091	11.0 × 21.0 × 31.0	8.3	62913	100		
0.1	11.0 ^ 21.0 ^ 01.0	0.5	62104	100		
0.11			62114			
0.12			62124			
0.13	13.0 × 23.0 × 31.0	10.8	62134	100		
0.15	13.0 × 23.0 × 31.0	10.8	62154	100		
0.16			62164			
0.18	15.005.004.0	10.0	62184	100		
0.2	$15.0 \times 25.0 \times 31.0$	13.0	62204	100		
0.22			62224			
0.24	$18.0\times28.0\times31.0$	19.0	62244	100		
0.27			62274			

## **KP/MMKP 376**

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#### **SPECIFIC REFERENCE DATA (630 VDC)**

DESCRIPTION	VALUE		
Tangent of loss angle:	at 10 kHz	at 100 kHz	
P = 15.0 mm	≤ 3 × 10 <sup>-4</sup>	≤ 10 × 10 <sup>-4</sup>	
P = 22.5 mm	$\leq 3 \times 10^{-4}$	≤ 10 × 10 <sup>-4</sup>	
P = 27.5 mm	$\leq 3 \times 10^{-4}$	≤ 15 × 10 <sup>-4</sup>	
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	1600 V; 1 minute		
for C > 47 nF	$[1, 6 - (0, 0364 \cdot \sqrt{C - 47})] \times 1000V$ ; 1 minute		
Withstanding (DC)voltage between leads and case	2840 V; 1 minute		

#### $U_{Rdc}=1\,000~V;~U_{Rac}=400~V/U_{p\text{-}p}=1\,100~V$

C (µF)			CATALOG NUMBER 2222 376 AND PACKAGING		
			LOOSE IN BOX		REEL
	$\begin{array}{c} \text{DIMENSIONS} \\ \text{W} \times \text{H} \times \text{L} \end{array}$	MASS	$I_t=5.0\pm1.0\;\text{mm}$	ALL LEADS	SPQ
	(mm)	(g)	C-tol = ± 5 %		
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ	
Pitch = 15.0 ± 0.4	mm; $d_t = 0.60 \pm 0.06$ mm				
0.0047			72472	1000	
0.0051	$5.0\times11.0\times17.5$	1.1	72512		1100
0.0056			72562		
0.0062			72622	1000	900
0.0068	6.0 × 12.0 × 17.5	1.5	72682		
0.0075	6.0 × 12.0 × 17.5	1.5	72752		
0.0082			72822		
$Pitch = 15.0 \pm 0.4$	mm; $d_t = 0.80 \pm 0.08$ mm				
0.0091			72912		
0.01	70 105 175	2.0	72103	1000	000
0.011	$7.0 \times 13.5 \times 17.5$	2.0	72113	1000	800
0.012			72123		
Pitch = 22.5 ± 0.4	mm; $d_t = 0.80 \pm 0.08$ mm				
0.013	6.0 × 15.5 × 26.0	2.8	72133	300	600
0.015			72153		
0.016	$7.0\times16.5\times26.0$	3.5	72163	200	550
0.018			72183		

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C			CATALOG NUMBER 2222 376 AND PACKAGING		
			LOOSE IN BOX		REEL
	DIMENSIONS W × H × L	MASS	$I_t = 5.0 \pm 1.0 \; mm$	ALL LEADS	
	(mm)	(g)	C-tol = ± 5 %	SPQ	
		-	LAST 5 DIGITS OF CATALOG NUMBER		SPQ
0.02			72203		
0.022			72223		
0.024			72243		
0.027	$8.5\times18.0\times26.0$	4.5	72273	200	450
0.03			72303		
0.033			72333		
0.036			72363		
0.039	10.0 × 19.5 × 26.0	5.4	72393	200	350
$\textbf{Pitch} = \textbf{27.5} \pm \textbf{0}.$	4 mm; $d_t = 0.80 \pm 0.08$ mm				
0.043			72433		
0.047	$9.0\times19.0\times31.0$	6.2	72473	100	
0.051			72513		
0.056			72563		
0.062	11.0 × 21.0 × 31.0	8.3	72623	100	
0.068	11.0 × 21.0 × 31.0	6.3	72683	100	
0.075			72753		
0.082			72823		
0.091	$13.0 \times 23.0 \times 31.0$	10.8	72913	100	
0.1			72104		
0.11			72114		
0.12	15.0 × 25.0 × 31.0	13.0	72124	100	
0.13	15.0 × 25.0 × 31.0	13.0	72134	100	
0.15			72154		
0.16	18.0 × 28.0 × 31.0	19.0	72164	100	
0.18	16.0 × 26.0 × 31.0	19.0	72184	100	



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