

RoHS COMPLIANT

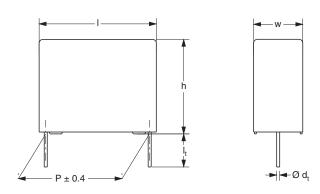
HALOGEN

FREE GREEN

(5-2008)

Vishay BCcomponents

# 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 aluminum 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 µF to 0.27 µF

# **FEATURES**

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

#### Material categorization:

for definitions of compliance please see www.vishay.com/doc?99912

### **CAPACITANCE TOLERANCE**

± 5 %; ± 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**

Grade 1 (long life)

#### **STABILITY GRADE**

Grade 2

#### **DETAIL SPECIFICATION**

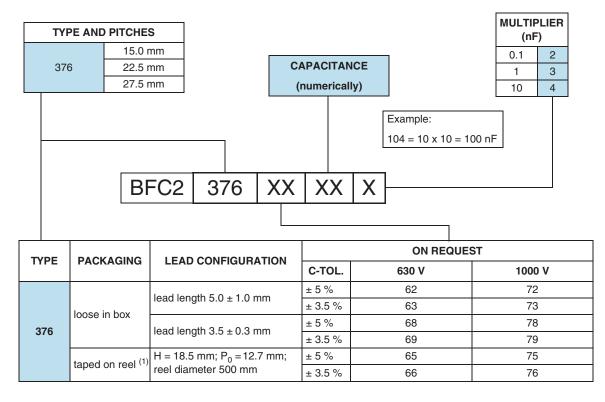
For more detailed data and test requirements see "Type Detail Specification HQN-384-17/101"





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# **COMPOSITION OF CATALOG NUMBER**



#### Note

<sup>(1)</sup> For detailed tape specification refer to "Packaging Information": <u>www.vishay.com/doc?28139</u>

# SPECIFIC REFERENCE DATA (630 VDC)

DESCRIPTION	VA	LUE		
Tangent of loss angle:	at 10 kHz	at 100 kHz		
P = 15.0 mm	≤ 5 x 10 <sup>-4</sup>	≤ 10 x 10 <sup>-4</sup>		
P = 22.5 mm	≤ 6 x 10 <sup>-4</sup>	≤ 15 x 10 <sup>-4</sup>		
P = 27.5 mm	$\leq 7 \text{ x } 10^{-4} \leq 20 \text{ x } 10^{-4}$			
Rated voltage pulse slope (dU/dt) <sub>R</sub> :				
P = 15.0 mm	400	4000 V/µs		
P = 22.5 mm	1400 V/µs			
P = 27.5 mm	900 V/µs			
R between leads at 500 V; 1 min	> 100 000 MΩ			
R between interconnected leads and case; 500 V; 1 min	> 100 000 MΩ			
Ionization (AC) voltage (typical value) at 50 pC peak discharge	> 400 V			
Withstanding (DC) voltage (cut off current 10 mA) <sup>(1)</sup> ; rise time 1000 V/s	1008 V; 1 min			
Withstanding (DC) voltage between leads and case	2840 V; 1 min			

#### Note

<sup>(1)</sup> See "Voltage Proof Test for Metalized Film Capacitors": <u>www.vishay.com/doc?28169</u>

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# U<sub>RDC</sub> = 630 V; U<sub>RAC</sub> = 300 V; U<sub>P-P</sub> = 850 V

		-	CATALOG NUMBER BFC2 376 AND		PACKAGING
C DIMENSIONS (µF) W x H x L (mm)	DIMENSIONS		LOOSE IN B		REEL <sup>(1)</sup>
	WxHxL	MASS (g) <sup>(2)</sup>	$l_t = 5.0 \pm 1.0 \text{ mm}$	ALL LEADS	H = 18.5 mm P <sub>0</sub> = 12.7 mm
	(mm)	(9)	C-tol. = ± 5 %	-	
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ	SPQ
Pitch = 15.0 ± 0.4	mm; d <sub>t</sub> = 0.60 ± 0.06 mm				
0.0068			62682		
0.0075	5.0 x 11.0 x 17.5	1.1	62752	1000	1100
0.0082	5.6 X 11.6 X 11.5	1.1	62822	1000	1100
0.0091			62912		
0.010			62103		
0.011	0.0 10.0 17.5	1 5	62113	1000	000
0.012	6.0 x 12.0 x 17.5	1.5	62123	1000	900
0.013			62133		
	mm; d <sub>t</sub> = 0.80 ± 0.08 mm	I		1	
0.015			62153		
0.016	7.0 x 13.5 x 17.5	2.0	62163	1000	800
0.018			62183		
0.020			62203		
0.022	8.5 x 15.0 x 17.5	2.6	62223	1000	650
Pitch = 22.5 0 ± 0.4	4 mm; d <sub>t</sub> = 0.80 ± 0.08 mm				
0.024			62243		
0.027	6.0 x 15.5 x 26.0	2.8	62273	300	600
0.030			62303		
0.033			62333		
0.036	7.0 x 16.5 x 26.0	3.5	62363	200	550
0.039			62393	200	
0.043		4.5	62433		
0.047		4.5	62473		
0.051	8.5 x 18.0 x 26.0	4.5	62513	200	450
0.056		5.1	62563		
	mm; d <sub>t</sub> = 0.80 ± 0.08 mm	0.1	02000		
0.062			62623		
0.068	9.0 x 19.0 x 31.0	6.2	62683	100	
0.075			62753		
0.082			62823		
0.091			62913		
0.10	11.0 x 21.0 x 31.0	8.3	62104	100	
0.11			62114		
0.12			62124		
0.12			62134		
0.15	13.0 x 23.0 x 31.0	10.8	62154	100	
0.15			62164		
0.18	15.0 x 25.0 x 31.0	13.0	62184	100	
0.20			62204		
0.22	10.001.0.01.0		62224	100	
0.24	18.0 x 28.0 x 31.0	19.0	62244	100	
0.27			62274		

#### Notes

• SPQ = Standard Packing Quantity

(1)  $H = in-tape height; P_0 = sprocket hole distance; for detailed specifications refer to packaging information$ 

<sup>(2)</sup> Weight for short lead product only

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# SPECIFIC REFERENCE DATA (1000 VDC)

DESCRIPTION	VA	LUE	
Tangent of loss angle:	at 10 kHz	at 100 kHz	
P = 15.0 mm	≤ 5 x 10 <sup>-4</sup>	≤ 10 x 10 <sup>-4</sup>	
P = 22.5 mm	≤ 6 x 10 <sup>-4</sup>	≤ 15 x 10 <sup>-4</sup>	
P = 27.5 mm	≤ 8 x 10 <sup>-4</sup>	≤ 20 x 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 min	> 100 000 MΩ		
R between interconnected leads and case; 500 V; 1 min	> 100 000 MΩ		
Ionization (AC) voltage (typical value) at 50 pC peak discharge	> 500 V		
Withstanding (DC) voltage (cut off current 10 mA) <sup>(1)</sup> ; rise time 1000 V/s			
for $C \le 47 \text{ nF}$	1600 V; 1 min		
for $C > 47 \text{ nF}$	[1, 6 - (0, 0364 · √C - 47)] x 1000 V; 1 min		
Withstanding (DC) voltage between leads and case	2840 \	/; 1 min	

#### Note

<sup>(1)</sup> See "Voltage Proof Test for Metalized Film Capacitors": <u>www.vishay.com/doc?28169</u>

## U<sub>RDC</sub> = 1000 V; U<sub>RAC</sub> = 400 V; U<sub>P-P</sub> = 1100 V

			CATALOG NUMBER BFC2 376 AND PACKAGING			
C (μF)			LOOSE IN BOX		REEL <sup>(1)</sup>	
	DIMENSIONS W x H x L	MASS	l <sub>t</sub> = 5.0 ± 1.0 mm	ALL LEADS	H = 18.5 mm	
	(mm)	(g) <sup>(2)</sup>	C-tol. = ± 5 %		P <sub>0</sub> = 12.7 mm SPQ	
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ		
Pitch = 15.0 ± 0.4	l mm; d <sub>t</sub> = 0.60 ± 0.06 mm					
0.0047			72472			
0.0051	5.0 x 11.0 x 17.5	1.1	72512	1000	1100	
0.0056			72562			
0.0062			72622			
0.0068		4.5	72682	1000	000	
0.0075	6.0 x 12.0 x 17.5	1.5	72752	1000	900	
0.0082			72822			
Pitch = 15.0 ± 0.4	l mm; d <sub>t</sub> = 0.80 ± 0.08 mm					
0.0091			72912			
0.010			72103	1000		
0.011	7.0 x 13.5 x 17.5	2.0	72113	1000	800	
0.012				72123		
Pitch = 22.5 ± 0.	4 mm; d <sub>t</sub> = 0.80 ± 0.08 mm					
0.013	6.0 x 15.5 x 26.0	2.8	72133	300	600	
0.015			72153			
0.016	7.0 x 16.5 x 26.0	3.5	72163	200	550	
0.018			72183			
0.020			72203			
0.022			72223			
0.024			72243			
0.027	8.5 x 18.0 x 26.0	4.5	72273	200	450	
0.03			72303			
0.033			72333			
0.036			72363			
0.039	10.0 x 19.5 x 26.0	5.4	72393	200	350	

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			CATALOG NUMBER BFC2 376 AND PACKAGING		
C DIMENSIONS (μF) W x H x L (mm)			LOOSE IN B	OX	REEL <sup>(1)</sup> H = 18.5 mm P <sub>0</sub> = 12.7 mm SPQ
		MASS	l <sub>t</sub> = 5.0 ± 1.0 mm	ALL LEADS	
			C-tol. = ± 5 %	SPQ	
Pitch = 27.5 ± 0	0.4 mm; d <sub>t</sub> = 0.80 ± 0.08 mm				
0.043			72433		
0.047	9.0 x 19.0 x 31.0	6.2	72473	100	
0.051			72513		
0.056			72563		
0.062	11.0 x 21.0 x 31.0		72623	100	
0.068	11.0 x 21.0 x 31.0	8.3	72683	100	
0.075			72753		
0.082			72823		
0.091	13.0 x 23.0 x 31.0	10.8	72913	100	
0.10			72104		
0.11			72114		
0.12	15.0 05.0 01.0	10.0	72124	100	
0.13	15.0 x 25.0 x 31.0	13.0	72134	100	
0.15			72154		
0.16	10.0 00.0 01.0	10.0	72164	100	
0.18	18.0 x 28.0 x 31.0	19.0	72184	100	

Notes

• SPQ = Standard Packing Quantity

(1) H = in-tape height;  $P_0$  = sprocket hole distance; for detailed specifications refer to packaging information

<sup>(2)</sup> Weight for short lead product only



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