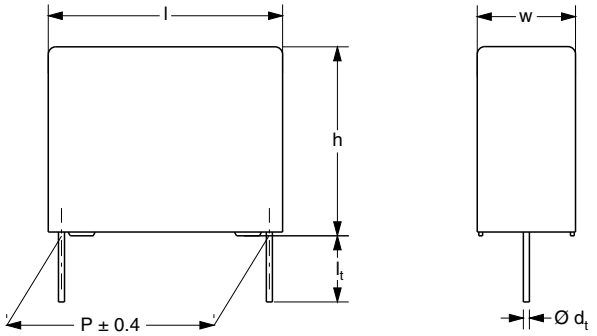
AC and Pulse Metallized Polypropylene Film Capacitors KP/MMKP Radial Potted Type



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

Pb-free
RoHS COMPLIANT
HALOGEN FREE
GREEN (5-2008)

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)

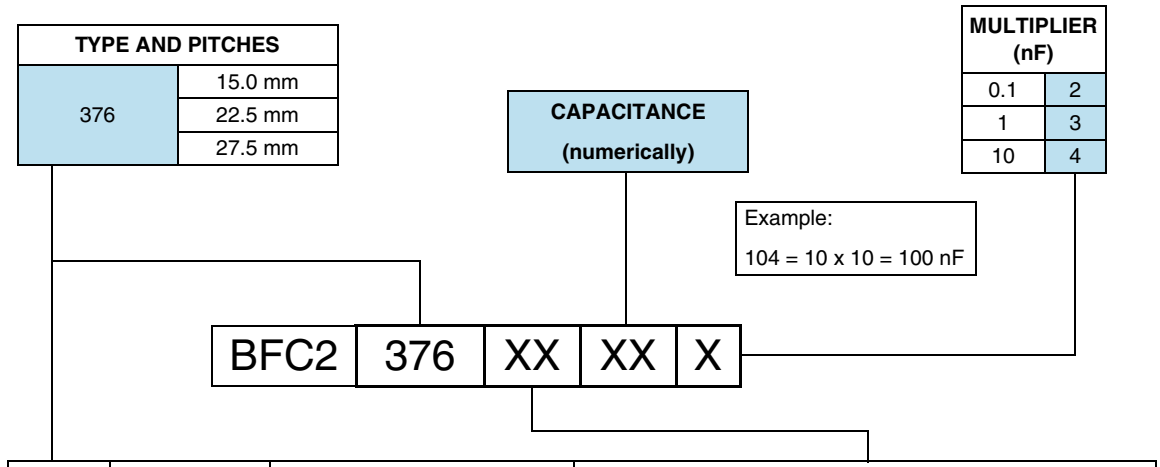
STABILITY GRADE

Grade 2

DETAIL SPECIFICATION

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

COMPOSITION OF CATALOG NUMBER



TYPE	PACKAGING	LEAD CONFIGURATION	ON REQUEST		
			C-TOL.	630 V	1000 V
376	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 (1)	H = 18.5 mm; P_0 = 12.7 mm; reel diameter 500 mm	± 5 %	65	75
			± 3.5 %	66	76

Note

(1) For detailed tape specification refer to “Packaging Information”: www.vishay.com/doc?28139

SPECIFIC REFERENCE DATA (630 V_{DC})

DESCRIPTION	VALUE	
Tangent of loss angle:	at 10 kHz	at 100 kHz
P = 15.0 mm	≤ 5 x 10^{-4}	≤ 10 x 10^{-4}
P = 22.5 mm	≤ 6 x 10^{-4}	≤ 15 x 10^{-4}
P = 27.5 mm	≤ 7 x 10^{-4}	≤ 20 x 10^{-4}
Rated voltage pulse slope $(dU/dt)_R$:		
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 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) (1); rise time 1000 V/s	1008 V; 1 min	
Withstanding (DC) voltage between leads and case	2840 V; 1 min	

Note

(1) See “Voltage Proof Test for Metalized Film Capacitors”: www.vishay.com/doc?28169

U_{RDC} = 630 V; U_{RAC} = 300 V; U_{P-P} = 850 V

C (µF)	DIMENSIONS W x H x L (mm)	MASS (g) [2]	CATALOG NUMBER BFC2 376 ..... AND PACKAGING		
			LOOSE IN BOX		REEL [1] H = 18.5 mm P_0 = 12.7 mm
			l_t = 5.0 ± 1.0 mm	ALL LEADS	
			C-tol. = ± 5 %		
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ	SPQ
Pitch = 15.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm					
0.0068 0.0075 0.0082 0.0091	5.0 x 11.0 x 17.5	1.1	62682 62752 62822 62912	1000	1100
0.010 0.011 0.012 0.013	6.0 x 12.0 x 17.5	1.5	62103 62113 62123 62133	1000	900
Pitch = 15.0 ± 0 4 mm; d_t = 0.80 ± 0.08 mm					
0.015 0.016 0.018	7.0 x 13.5 x 17.5	2.0	62153 62163 62183	1000	800
0.020 0.022	8.5 x 15.0 x 17.5	2.6	62203 62223	1000	650
Pitch = 22.5 0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm					
0.024 0.027 0.030	6.0 x 15.5 x 26.0	2.8	62243 62273 62303	300	600
0.033 0.036 0.039	7.0 x 16.5 x 26.0	3.5	62333 62363 62393	200	550
0.043 0.047 0.051 0.056	8.5 x 18.0 x 26.0	4.5 4.5 4.5 5.1	62433 62473 62513 62563	200	450
Pitch = 27.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm					
0.062 0.068 0.075	9.0 x 19.0 x 31.0	6.2	62623 62683 62753	100	
0.082 0.091 0.10 0.11	11.0 x 21.0 x 31.0	8.3	62823 62913 62104 62114	100	
0.12 0.13 0.15 0.16	13.0 x 23.0 x 31.0	10.8	62124 62134 62154 62164	100	
0.18 0.20	15.0 x 25.0 x 31.0	13.0	62184 62204	100	
0.22 0.24 0.27	18.0 x 28.0 x 31.0	19.0	62224 62244 62274	100	

Notes

- SPQ = Standard Packing Quantity

[1] H = in-tape height; P_0 = sprocket hole distance; for detailed specifications refer to packaging information

[2] Weight for short lead product only

SPECIFIC REFERENCE DATA (1000 V_{DC})

DESCRIPTION	VALUE	
Tangent of loss angle:	at 10 kHz	at 100 kHz
P = 15.0 mm	≤ 5 x 10^{-4}	≤ 10 x 10^{-4}
P = 22.5 mm	≤ 6 x 10^{-4}	≤ 15 x 10^{-4}
P = 27.5 mm	≤ 8 x 10^{-4}	≤ 20 x 10^{-4}
Rated voltage pulse slope $(dU/dt)_R$:		
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) (1); rise time 1000 V/s		
for C ≤ 47 nF	1600 V; 1 min	
for C > 47 nF	$[1,6 - (0,0364 \cdot \sqrt{C - 47})]$ x 1000 V; 1 min	
Withstanding (DC) voltage between leads and case	2840 V; 1 min	

Note

(1) See “Voltage Proof Test for Metalized Film Capacitors”: www.vishay.com/doc?28169

U_{RDC} = 1000 V; U_{RAC} = 400 V; U_{P-P} = 1100 V

C (µF)	DIMENSIONS W x H x L (mm)	MASS (g) (2)	CATALOG NUMBER BFC2 376 ..... AND PACKAGING		
			LOOSE IN BOX		REEL (1) H = 18.5 mm P_0 = 12.7 mm
			l_t = 5.0 ± 1.0 mm	ALL LEADS	
			C-tol. = ± 5 %		
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ	SPQ
Pitch = 15.0 ± 0.4 mm; d_t = 0.60 ± 0.06 mm					
0.0047	5.0 x 11.0 x 17.5	1.1	72472	1000	1100
0.0051			72512		
0.0056			72562		
0.0062	6.0 x 12.0 x 17.5	1.5	72622	1000	900
0.0068			72682		
0.0075			72752		
0.0082			72822		
Pitch = 15.0 ± 0.4 mm; d_t = 0.80 ± 0.08 mm					
0.0091	7.0 x 13.5 x 17.5	2.0	72912	1000	800
0.010			72103		
0.011			72113		
0.012			72123		
Pitch = 22.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm					
0.013	6.0 x 15.5 x 26.0	2.8	72133	300	600
0.015	7.0 x 16.5 x 26.0	3.5	72153	200	550
0.016			72163		
0.018			72183		
0.020	8.5 x 18.0 x 26.0	4.5	72203	200	450
0.022			72223		
0.024			72243		
0.027			72273		
0.03			72303		
0.033			72333		
0.036			72363		
0.039	10.0 x 19.5 x 26.0	5.4	72393	200	350

C (µF)	DIMENSIONS W x H x L (mm)	MASS (g) [2]	CATALOG NUMBER BFC2 376 ..... AND PACKAGING		
			LOOSE IN BOX		REEL [1] H = 18.5 mm P_0 = 12.7 mm
			l_t = 5.0 ± 1.0 mm	ALL LEADS	
			C-tol. = ± 5 %		
			LAST 5 DIGITS OF CATALOG NUMBER	SPQ	SPQ
Pitch = 27.5 ± 0.4 mm; d_t = 0.80 ± 0.08 mm					
0.043	9.0 x 19.0 x 31.0	6.2	72433	100	
0.047			72473		
0.051			72513		
0.056	11.0 x 21.0 x 31.0	8.3	72563	100	
0.062			72623		
0.068			72683		
0.075			72753		
0.082	13.0 x 23.0 x 31.0	10.8	72823	100	
0.091			72913		
0.10			72104		
0.11	15.0 x 25.0 x 31.0	13.0	72114	100	
0.12			72124		
0.13			72134		
0.15			72154		
0.16	18.0 x 28.0 x 31.0	19.0	72164	100	
0.18			72184		

Notes

- SPQ = Standard Packing Quantity

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

(2) Weight for short lead product only

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.