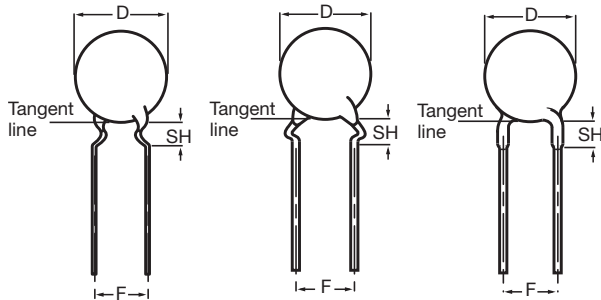




Ceramic Disc Capacitors

Class 2, Low Loss (0.5 %), 500 V_{DC}, 1 kV_{DC}, 2 kV_{DC} and 3 kV_{DC}



Capacitors with 5 mm (0.20"), 7.5 mm (0.30") and 10 mm (0.40") lead spacing

Obsolete - please refer to: www.vishay.com/doc?28500

QUICK REFERENCE DATA

DESCRIPTION	CLASS 2 (Y5P)
Voltage (V _{DC})	500, 1000, 2000, 3000
Min. Capacitance (pF)	100
Max. Capacitance (pF)	4700
Mounting	Through hole

MARKING

Marking indicates capacitance value and tolerance in accordance with "EIA 198" and voltage marks

OPERATING TEMPERATURE RANGE

- 30 °C to + 125 °C

TEMPERATURE COEFFICIENT

Y5P

SECTIONAL SPECIFICATIONS

Class 2 IEC 60384-9, EIA 198

Climatic Category

30/85/21

EXAMPLES OF MARKING CODE

Disc size (D _{max.}) ≤ 6.5 mm:	Disc size (D _{max.}) ≥ 7.5 mm:
RP = low loss with T.C. Y5P	BC
101K	RP
2 kV	102K
	3 kV

Note

The capacitors meet the essential requirements of IEC 60384-9 and EIA 198. Unless stated otherwise all electrical values apply at an ambient temperature of 25 °C ± 3 °C, at normal atmospheric conditions

FEATURES

- High reliability
- Low losses
- High capacitance in small size
- Kinked (preferred) or straight leads
- Compliant to RoHS Directive 2002/95/EC



RoHS
COMPLIANT

APPLICATIONS

In electronic circuits where low losses and high capacitance per volume are essential, for example:

- SMPS
- HF ballast
- Snubber and high voltage circuits

DESIGN

The capacitors consist of a ceramic disc both sides of which are silver-plated. Connection leads are made of tinned copper having a diameter of 0.6 mm or 0.8 mm.

The capacitors may be supplied with kinked or straight leads with a lead spacing of 5 mm (0.20"), 7.5 mm (0.30") or 10 mm (0.40") and a lead length from 4 mm to 30 mm. The standard tolerance on capacitance is ± 10 %. Encapsulation is made of gold colored epoxy-resin, flammable resistant in accordance with "UL 94 V-0".

CAPACITANCE RANGE

100 pF to 4700 pF

RATED DC VOLTAGE

500 V; 1 kV; 2 kV; 3 kV

DIELECTRIC STRENGTH

200 % of rated voltage

INSULATION RESISTANCE AT 500 V_{DC}

≥ 10 000 MΩ

TOLERANCE ON CAPACITANCE

± 10 %, other tolerances available on request

DISSIPATION FACTOR

0.5 % max.

F Series



Vishay BCcomponents

Ceramic Disc Capacitors
Class 2, Low Loss (0.5 %), 500 V_{DC},
1 kV_{DC}, 2 kV_{DC} and 3 kV_{DC}

ORDERING INFORMATION						
C (pF)	TOL. (%)	D _{MAX.} (mm)	LEAD SPACING (mm)	SH ⁽¹⁾ (mm)	CLEAR TEXT CODE	
					13 TH DIGIT: T = REEL; U = AMMO; 3 = BULK 16 TH DIGIT: R = RoHS COMPLIANT	
500 V						
100	± 10	5.0	5.0	4.0	F101K25Y5PL6.J5.	
120					F121K25Y5PL6.J5.	
150					F151K25Y5PL6.J5.	
180					F181K25Y5PL6.J5.	
220					F221K25Y5PL6.J5.	
270					F271K25Y5PL6.J5.	
330					F331K25Y5PL6.J5.	
390					F391K25Y5PL6.J5.	
470		F471K25Y5PL6.J5.				
560		6.5	5.0		F561K25Y5PL6.J5.	
680					F681K25Y5PL6.J5.	
820					F821K25Y5PL6.J5.	
1000					F102K29Y5PL6.J5.	
1200		F122K33Y5PL6.J5.				
1500		F152K33Y5PL6.J5.				
1800		F182K39Y5PL6.J5.				
2200		F222K39Y5PL6.J5.				
2700		F272K43Y5PL6.J5.				
3300		12			7.5	F332K47Y5PL6J7.
3900		13.5	F392K53Y5PL6J7.			
1 kV						
100	± 10	6.5	5.0	4.0	F101K25Y5PN6.J5.	
120					F121K25Y5PN6.J5.	
150					F151K25Y5PN6.J5.	
180					F181K25Y5PN6.J5.	
220					F221K25Y5PN6.J5.	
270					F271K25Y5PN6.J5.	
330					F331K25Y5PN6.J5.	
390					F391K25Y5PN6.J5.	
470		F471K25Y5PN6.J5.				
560		7.5	5.0		F561K29Y5PN6.J5.	
680					F681K29Y5PN6.J5.	
820					F821K33Y5PN6.J5.	
1000					F102K33Y5PN6.J5.	
1200		F122K39Y5PN6.J5.				
1500		F152K39Y5PN6.J5.				
1800		F182K39Y5PN6.J5.				
2200		11			7.5	4.8
2700		13.5		F272K53Y5PN6J7.		
3300		15		F332K59Y5PN6J7.		
3900			F392K59Y5PN6J7.			



Ceramic Disc Capacitors
Class 2, Low Loss (0.5 %), 500 V_{DC},
1 kV_{DC}, 2 kV_{DC} and 3 kV_{DC}

Vishay BCcomponents

ORDERING INFORMATION						
C (pF)	TOL. (%)	D _{MAX.} (mm)	LEAD SPACING (mm)	SH ⁽¹⁾ (mm)	CLEAR TEXT CODE	
					13 TH DIGIT: T = REEL; U = AMMO; 3 = BULK 16 TH DIGIT: R = RoHS COMPLIANT	
2 kV						
100	± 10	6.5	5.0	4.0	F101K25Y5PP6.K5.	
120					F121K25Y5PP6.K5.	
150					F151K25Y5PP6.K5.	
180					F181K25Y5PP6.K5.	
220					F221K25Y5PP6.K5.	
270		7.5			F271K29Y5PP6.K5.	
2 kV						
330	± 10	7.5	5.0	4.0	F331K29Y5PP6.K5.	
390					F391K29Y5PP6.K5.	
470					F471K29Y5PP6.K5.	
560		8.5			F561K33Y5PP6.K5.	
680					F681K33Y5PP6.K5.	
820		11			F821K43Y5PP6.K5.	
1000					F102K43Y5PP6.K5.	
1200		F122K43Y5PP6.K5.				
1500		12	F152K47Y5PP63K7.			
1800		15	4.8	F182K59Y5PP63K7.		
2200				F222K59Y5PP63K7.		
2700		17.5		F272K69Y5PP63K7.		
3300				F332K69Y5PP63K7.		
3900		19		10	F392K75Y5PP83K0.	
4700					F472K75Y5PP83K0.	
3 kV						
100	± 10	8.5		7.5	4.0	F101K33Y5PR6.K7.
120			F121K33Y5PR6.K7.			
150			F151K33Y5PR6.K7.			
180			F181K33Y5PR6.K7.			
220			F221K33Y5PR6.K7.			
270			F271K33Y5PR6.K7.			
330			F331K33Y5PR6.K7.			
390			F391K33Y5PR6.K7.			
470			F471K33Y5PR6.K7.			
560			F561K33Y5PR6.K7.			
680			F681K43Y5PR6.K7.			
820		11	F821K43Y5PR6.K7.			
1000			F102K43Y5PR63K7.			
1200			F122K53Y5PR63K7.			
1500		13.5	4.8		F152K59Y5PR63K7.	
1800					F182K59Y5PR63K7.	
2200		F222K59Y5PR63K7.				
2700		19		10	F272K75Y5PR83K0.	

Notes

⁽¹⁾ SH = seated height

- Maximum thickness 500 V = 3.5 mm; 1 kV = 4.5 mm; 2 kV = 5.0 mm; 3 kV = 6.0 mm
- Lead style codes refer to inward kinked leads. Other styles available on request

F Series

Vishay BCcomponents

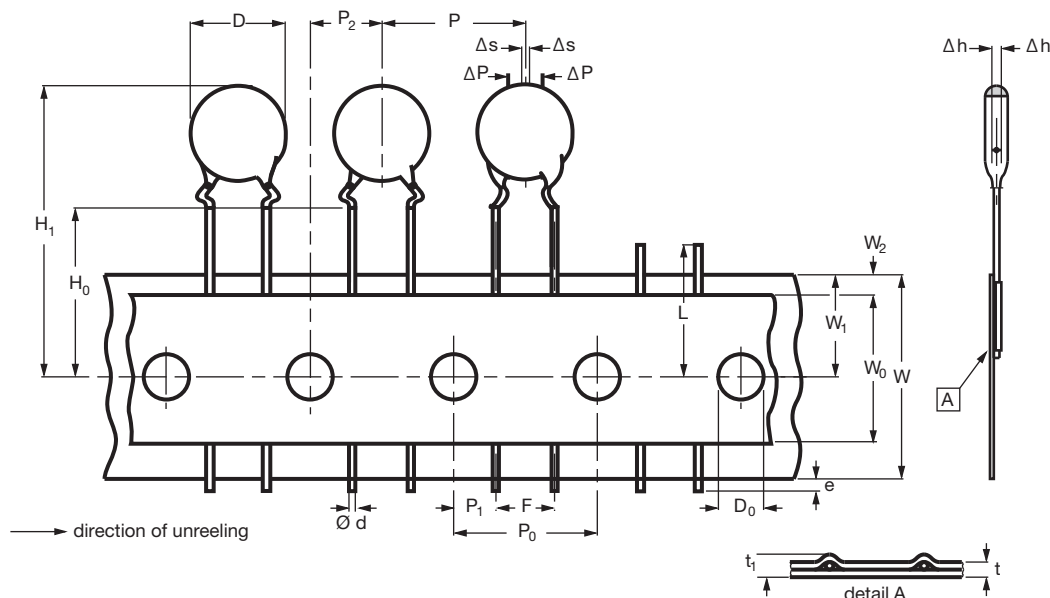
Ceramic Disc Capacitors
Class 2, Low Loss (0.5 %), 500 V_{DC},
1 kV_{DC}, 2 kV_{DC} and 3 kV_{DC}



PACKAGING					
PACKAGING TYPE	SIZE CODE	LEAD SPACE (mm)	VOLTAGE (V _{DC})	SPQ	BOX DIMENSIONS L x W x H (mm)
Bulk (long lead L ≥ 25.4 mm)	20 to 47	all	all	1000	245 x 120 x 65
				1000	
	53 to 75			1000	
	84 to 96			500	
Tape and reel	≤ 47	≤ 6.40	500 ≤ WV ≤ 2000	2500	370 x 370 x 60
				2000	
				1000	
	≥ 53	≥ 7.5	all	1000	
Ammopack	≤ 47	≤ 6.40	500 ≤ WV < 2000 2000 and 3000	500	335 x 240 x 50
				2000	335 x 290 x 50
				1500	335 x 290 x 50
	≥ 53	≥ 7.5	all	1500	360 x 330 x 55
				500	335 x 290 x 50

Note

- The capacitors are supplied in bulk packaging (cardboard boxes), in tape on reel or in ammpack



DIMENSIONS OF TAPE			
SYMBOL	PARAMETER	DIMENSIONS (mm)	
		NOMINAL	TOLERANCE
D	Body diameter	11.0 maximum	-
d	Lead diameter	0.6	± 0.05
P	Pitch between capacitors	12.7	± 1.0
P ₀ ⁽¹⁾	Feed-hole pitch	12.7	± 0.3 ⁽¹⁾
ΔP	Plane deviation	1.0 maximum	-
P ₁ ⁽²⁾	Feed-hole center to lead center	3.85	± 0.7 ⁽²⁾
P ₂ ⁽²⁾	Feed-hole center to component center	6.35	± 1.3 ⁽²⁾
F	Lead spacing	5.0	0.6
Δh	Component alignment	0	± 1.0



Ceramic Disc Capacitors
Class 2, Low Loss (0.5 %), 500 V_{DC},
1 kV_{DC}, 2 kV_{DC} and 3 kV_{DC}

Vishay BCcomponents

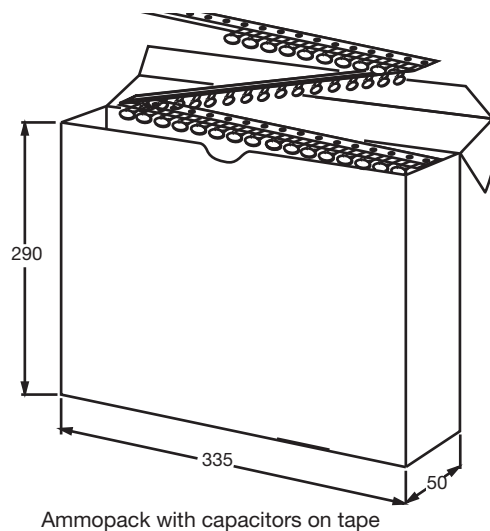
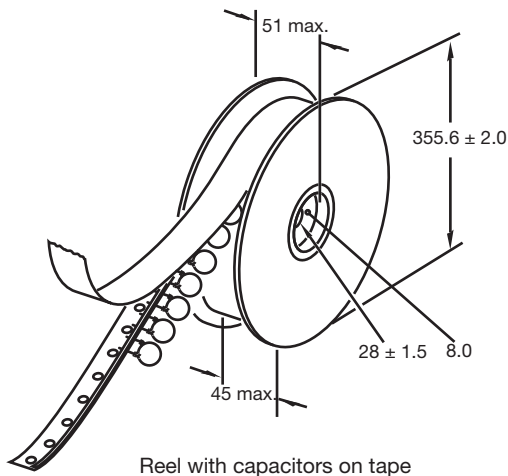
DIMENSIONS OF TAPE			
SYMBOL	PARAMETER	DIMENSIONS (mm)	
		NOMINAL	TOLERANCE
W	Tape width	18.0	1.0
W ₀	Hold-down tape width	5.0 minimum	-
W ₁	Hole position	9.0	0.75
W ₂	Hold-down tape margin	3.0 maximum	-
H ₀	Height to seating plane	16.0	± 0.5
H ₁	Maximum component height	32.0	-
e	Lead end protrusion	1.0 maximum	-
L	Maximum length of snapped lead	11.0	-
D ₀	Feed-hole diameter	4.0	± 0.2
t	Total tape thickness	0.9 maximum	-
t ₁	Maximum thickness of tape and wires	1.5 maximum	-

Notes

(1) Cumulative pitch error: $\pm \leq 1$ mm/20 pitches

(2) Obliquity maximum 3°

REEL AND TAPE DATA in millimeters



DIMENSIONS OF AMMOPACK			
PARAMETER	DISC SIZE (D _{MAX})		UNIT
	6.5 mm	12.0 mm to 13.5 mm	
Taping pitch	12.7	15.0	mm
L	335	360	mm
W	290	330	mm
H	50	55	mm



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.

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.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.