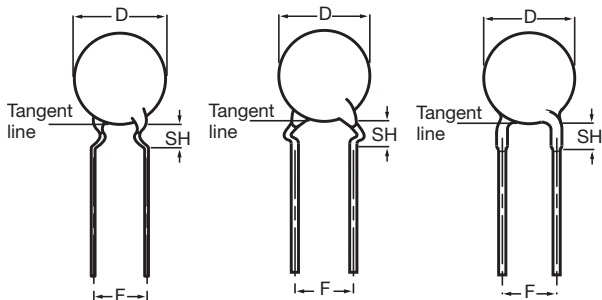




Ceramic Disc Capacitors

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:
	BC
RP = low loss with T.C. Y5P	RP
101K	102K
2 kV	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

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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					F561K25Y5PL6.J5.		
680		F681K25Y5PL6.J5.					
820		F821K25Y5PL6.J5.					
1000		7.5	7.5	4.0	F102K29Y5PL6.J5.		
1200		8.5			F122K33Y5PL6.J5.		
1500		10			F152K33Y5PL6.J5.		
1800					F182K39Y5PL6.J5.		
2200					F222K39Y5PL6.J5.		
2700		11			F272K43Y5PL6.J5.		
3300		12			F332K47Y5PL63J7.		
3900		13.5			F392K53Y5PL63J7.		
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			F561K29Y5PN6.J5.				
680		F681K29Y5PN6.J5.					
820		7.5	7.5	4.8	F821K33Y5PN6.J5.		
1000		8.5			F102K33Y5PN6.J5.		
1200		10			F122K39Y5PN6.J5.		
1500					F152K39Y5PN6.J5.		
1800					F182K39Y5PN6.J5.		
2200		11			F222K43Y5PN6.J5.		
2700		13.5			F272K53Y5PN63J7.		
3300		15			F332K59Y5PN63J7.		
3900					F392K59Y5PN63J7.		



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					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					F271K29Y5PP6.K5.		
2 kV							
330	± 10	7.5	5.0	4.0	F331K29Y5PP6.K5.		
390					F391K29Y5PP6.K5.		
470					F471K29Y5PP6.K5.		
560		8.5			5.0	4.0	F561K33Y5PP6.K5.
680							F681K33Y5PP6.K5.
820							F821K43Y5PP6.K5.
1000		11	5.0	4.0	F102K43Y5PP6.K5.		
1200					F122K43Y5PP6.K5.		
1500					F152K47Y5PP63K7.		
1800		15	7.5	4.8	F182K59Y5PP63K7.		
2200					F222K59Y5PP63K7.		
2700					F272K69Y5PP63K7.		
3300		17.5	7.5	4.8	F332K69Y5PP63K7.		
3900					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			F821K43Y5PR6.K7.				
1000			F102K43Y5PR63K7.				
1200			F122K53Y5PR63K7.				
1500			F152K59Y5PR63K7.				
1800		F182K59Y5PR63K7.					
2200		F222K59Y5PR63K7.					
2700		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



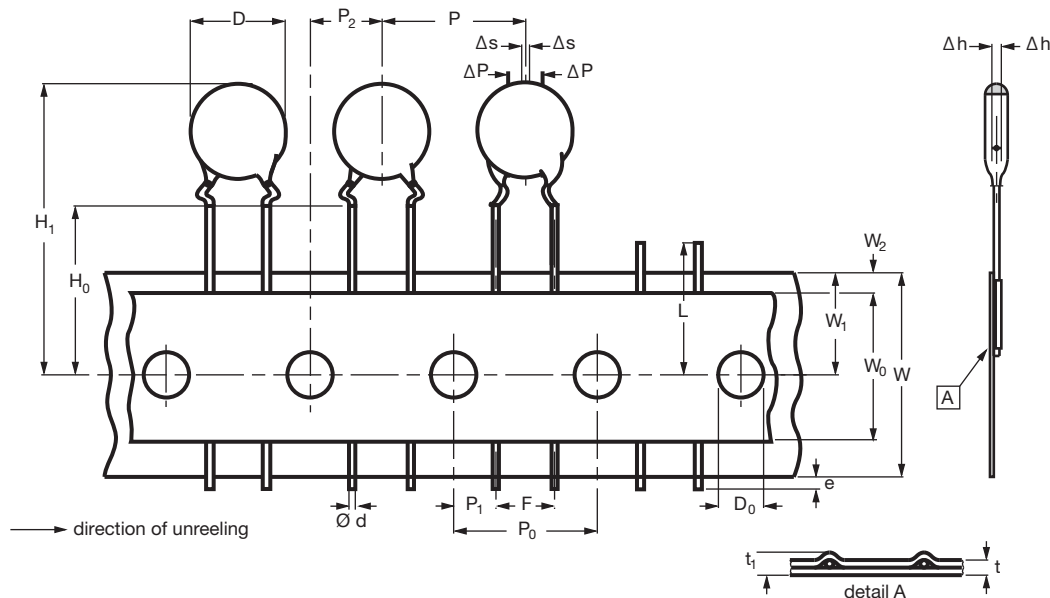
Vishay BCcomponents

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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	
	1000				
	500				
	53 to 75			250	
	84 to 96			2500	
Tape and reel	≤ 47	≤ 6.40	500 ≤ WV ≤ 2000	2000	370 x 370 x 60
			3000	1000	
	≥ 53	≥ 7.5	all	1000	
				500	
Ammopack	≤ 47	≤ 6.40	500 ≤ WV < 2000	1500	335 x 240 x 50
			2000 and 3000	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



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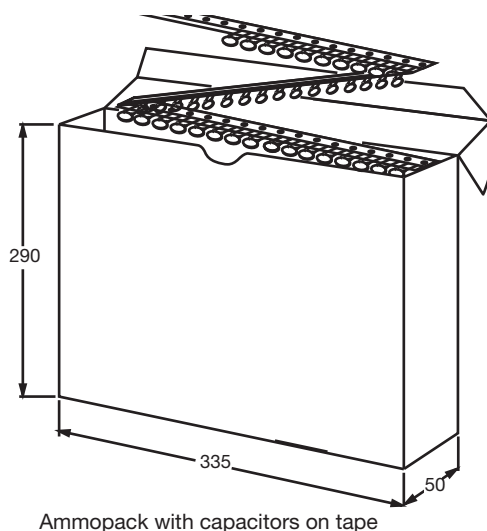
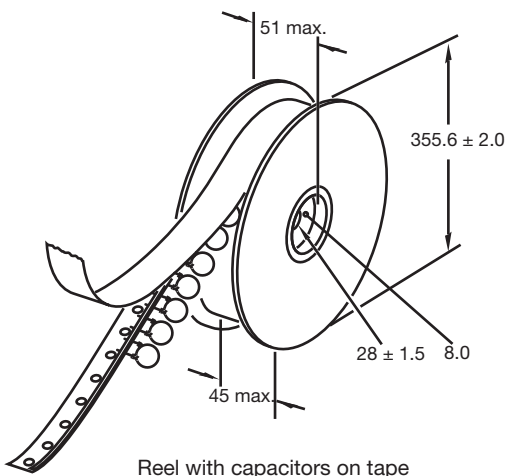
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DIMENSIONS OF TAPE			
SYMBOL	PARAMETER	DIMENSIONS (mm)	
		NOMINAL	TOLERANCE
W	Tape width	18.0	1.0
W ₀	Hold-down tape width	5.0 minimum	-
W ₁	Hole position	9.0	0.75
W ₂	Hold-down tape margin	3.0 maximum	-
H ₀	Height to seating plane	16.0	± 0.5
H ₁	Maximum component height	32.0	-
e	Lead end protrusion	1.0 maximum	-
L	Maximum length of snipped 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



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