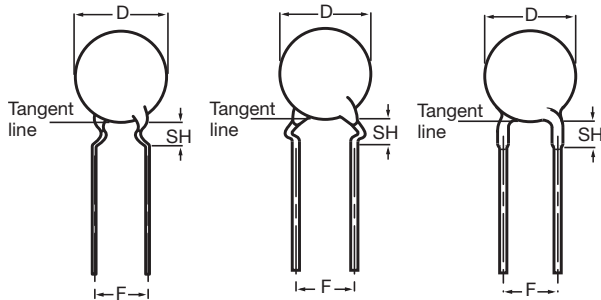




Ceramic Disc Capacitors

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

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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	F102K29Y5PL6.J5.		
1200		8.5	F122K33Y5PL6.J5.		
1500		10	F152K33Y5PL6.J5.		
1800			F182K39Y5PL6.J5.		
2200			F222K39Y5PL6.J5.		
2700			11		F272K43Y5PL6.J5.
3300			12		F332K47Y5PL6J7.
3900		13.5	7.5		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
680		8.5	F681K29Y5PN6.J5.		
820			F821K33Y5PN6.J5.		
1000			F102K33Y5PN6.J5.		
1200			F122K39Y5PN6.J5.		
1500			F152K39Y5PN6.J5.		
1800		10	F182K39Y5PN6.J5.		
2200			11		F222K43Y5PN6.J5.
2700			13.5		F272K53Y5PN6J7.
3300			15		7.5
3900		4.8			F392K59Y5PN6J7.



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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		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	7.5	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



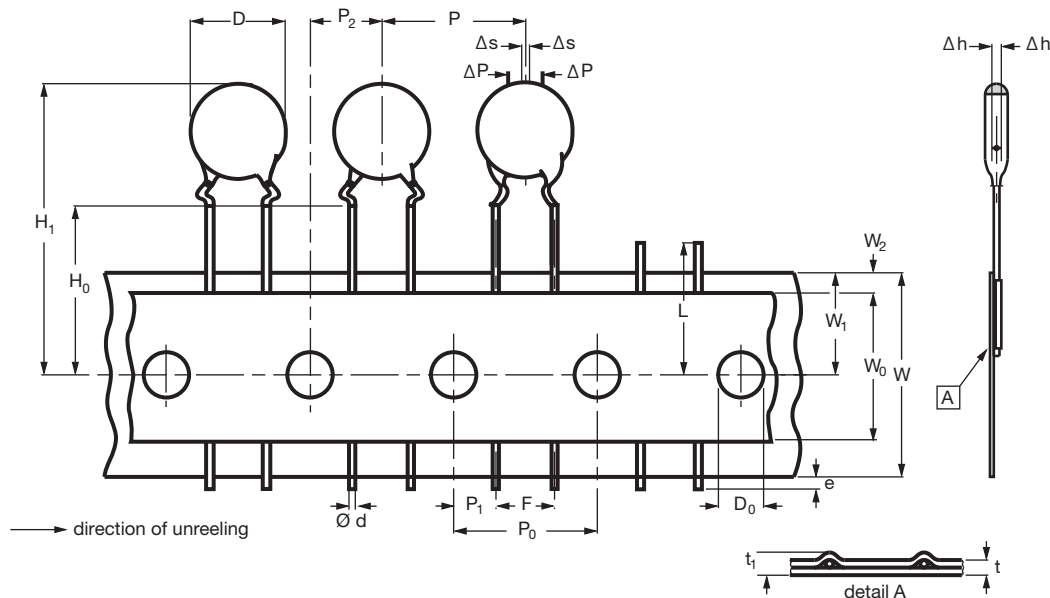
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PACKAGING					
PACKAGING TYPE	SIZE CODE	LEAD SPACE (mm)	VOLTAGE (V _{DC})	SPQ	BOX DIMENSIONS L x W x H (mm)
Bulk (long lead L ≥ 25.4 mm)	20 to 47	all	all	1000	245 x 120 x 65
				1000	
	53 to 75			1000	
	84 to 96			500	
Tape and reel	≤ 47	≤ 6.40	500 ≤ 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



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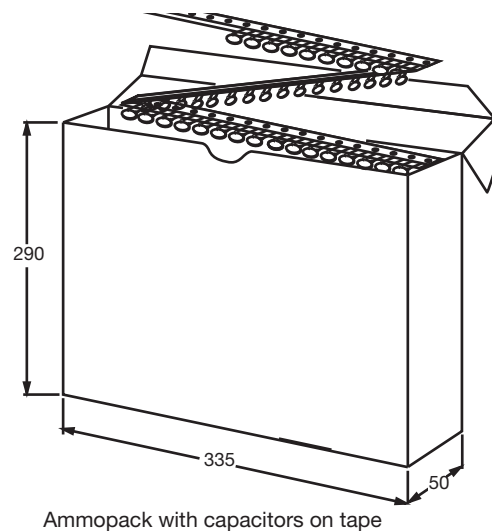
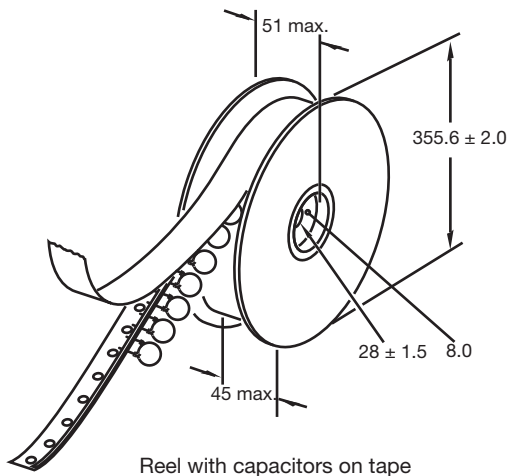
DIMENSIONS OF TAPE			
SYMBOL	PARAMETER	DIMENSIONS (mm)	
		NOMINAL	TOLERANCE
W	Tape width	18.0	1.0
W ₀	Hold-down tape width	5.0 minimum	-
W ₁	Hole position	9.0	0.75
W ₂	Hold-down tape margin	3.0 maximum	-
H ₀	Height to seating plane	16.0	± 0.5
H ₁	Maximum component height	32.0	-
e	Lead end protrusion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



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