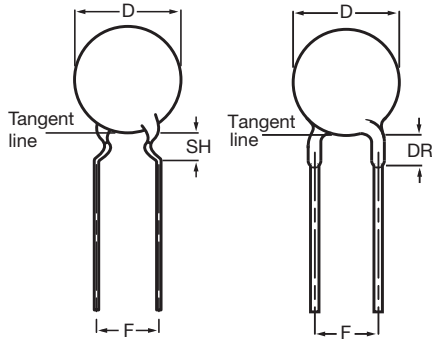


## Ceramic Disc Capacitors Class 1, 100 V<sub>DC</sub>, Narrow Tolerance



Capacitors with 5 mm (0.20") and 2.5 mm (0.10") lead spacing

QUICK REFERENCE DATA	
DESCRIPTION	CLASS 1 (NP0, N750)
Voltage (V <sub>DC</sub> )	100
Min. Capacitance (pF)	1.5
Max. Capacitance (pF)	330
Mounting	Through hole

### MARKING

Marking indicates capacitance value and tolerance in accordance with EIA 198.

### OPERATING TEMPERATURE RANGE

Class 1, - 55 to + 125 °C

### TEMPERATURE COEFFICIENTS

Class 1, NP0; N750

### SECTIONAL SPECIFICATIONS

Class 1, IEC 60 384-8,  
EIA 198

### CLIMATIC CATEGORY

Class 1, 55/125/56

### FEATURES

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



RoHS  
COMPLIANT

### APPLICATIONS

- Bypassing
- Coupling
- Resonant circuit

### 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.

The capacitors have inward kinked leads with a spacing of 5 mm (0.20") and 2.5 mm (0.10") and a lead length from 4 mm to 30 mm. Encapsulation is made of phenolic resin.

### CAPACITANCE RANGE

1.5 pF to 330 pF; Class 1, at 1 MHz, 1.2 V<sub>RMS</sub>;

1 kHz, 1 V<sub>RMS</sub> ± 0.2 V<sub>RMS</sub> for capacitance values higher than 1000 pF

### RATED DC VOLTAGE

100 V

### DIELECTRIC STRENGTH

250 % of rated voltage

### INSULATION RESISTANCE AT 100 V<sub>DC</sub>

≥ 10 000 MΩ

### TOLERANCE ON CAPACITANCE

± 0.25 pF; ± 0.5 pF; ± 2 %

### DISSIPATION FACTOR

Class 1, C ≤ 30 pF; ≤ 20 x (10/C + 0.7) x 10<sup>-4</sup> maximum

Class 1, C > 30 pF; ≤ 0.2 %

### Note

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



# D Series Narrow Tolerance

Ceramic Disc Capacitors  
Class 1, 100 V<sub>DC</sub>, Narrow Tolerance

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ORDERING INFORMATION, CLASS 1, 100 V <sub>DC</sub> , KINKED AND STRAIGHT							
C (PF)	TOL. (%)	D <sub>MAX.</sub> (mm)	LEAD SPACING F (mm)	SH/DR <sub>MAX.</sub> <sup>(1)</sup> (mm)	CLEAR TEXT CODE		
					13 <sup>TH</sup> DIGIT: T = REEL; U = AMMO; 3 = BULK		
<b>CLASS 1 NP0</b>							
1.5	± 0.25 pF	5.0	5.0	4.0	D159C20C0KH6.J5R		
			2.5	1.5	D159C20C0KH6.L2R		
1.8			5.0	4.0	D189C20C0KH6.J5R		
			2.5	1.5	D189C20C0KH6.L2R		
2.2			5.0	4.0	D229C20C0JH6.J5R		
			2.5	1.5	D229C20C0JH6.L2R		
3.3			5.0	4.0	D339C20C0JH6.J5R		
			2.5	1.5	D339C20C0JH6.L2R		
4.7			5.0	4.0	D479C20C0HH6.J5R		
			2.5	1.5	D479C20C0HH6.L2R		
6.8			5.0	4.0	D689C20C0HH6.J5R		
			2.5	1.5	D689C20C0HH6.L2R		
10			± 2	5.0	5.0	4.0	D100G20C0GH6.J5R
					2.5	1.5	D100G20C0GH6.L2R
15					5.0	4.0	D150G20C0GH6.J5R
					2.5	1.5	D150G20C0GH6.L2R
22	5.0	4.0			D220G20C0GH6.J5R		
	2.5	1.5			D220G20C0GH6.L2R		
33	5.0	4.0			D330G20C0GH6.J5R		
	2.5	1.5			D330G20C0GH6.L2R		
47	± 2	6.5			5.0	4.0	D470G25C0GH6.J5R
					2.5	1.5	D470G25C0GH6.L2R
68			5.0	4.0	D680G25C0GH6.J5R		
			2.5	1.5	D680G25C0GH6.L2R		
100		7.5	5.0	4.0	D101G29C0GH6.J5R		
			2.5	1.5	D101G29C0GH6.L2R		
150		8.5	5.0	4.0	D151G33C0GH6.J5R		
			2.5	1.5	D151G33C0GH6.L2R		
220		11.0	5.0	4.0	D221G43C0GH6.J5R		
			2.5	1.5	D221G43C0GH6.L2R		
<b>CLASS 1 N750</b>							
6.8		± 0.25 pF	5.5	5.0	4.0	D689C20U2JH6.J5R	
	2.5			1.5	D689C20U2JH6.L2R		
10	± 2	5.5		5.0	4.0	D100G20U2JH6.J5R	
				2.5	1.5	D100G20U2JH6.L2R	
15		5.5		5.0	4.0	D150G20U2JH6.J5R	
				2.5	1.5	D150G20U2JH6.L2R	
22		5.5		5.0	4.0	D220G20U2JH6.J5R	
				2.5	1.5	D220G20U2JH6.L2R	
33		5.5		5.0	4.0	D330G20U2JH6.J5R	
				2.5	1.5	D330G20U2JH6.L2R	
47		5.5		5.0	4.0	D470G20U2JH6.J5R	
				2.5	1.5	D470G20U2JH6.L2R	
68	6.5	5.0		4.0	D680G25U2JH6.J5R		
		2.5		1.5	D680G25U2JH6.L2R		

# D Series Narrow Tolerance



Vishay BCcomponents

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Class 1, 100 V<sub>DC</sub>, Narrow Tolerance

ORDERING INFORMATION, CLASS 1, 100 V <sub>DC</sub> , KINKED AND STRAIGHT					
C (PF)	TOL. (%)	D <sub>MAX.</sub> (mm)	LEAD SPACING F (mm)	SH/DR <sub>MAX.</sub> (1)	CLEAR TEXT CODE
					13 <sup>TH</sup> DIGIT: T = REEL; U = AMMO; 3 = BULK
<b>CLASS 1 N 750</b>					
100	± 2	7.5	5.0	4.0	D101G29U2JH6.J5R
			2.5	1.5	D101G29U2JH6.L2R
150		8.5	5.0	4.0	D151G33U2JH6.J5R
			2.5	1.5	D151G33U2JH6.L2R
220		10	5.0	4.0	D221G39U2JH6.J5R
			2.5	1.5	D221G39U2JH6.L2R
330	12	5.0	4.0	D331G47U2JH6.J5R	
		2.5	1.5	D331G47U2JH6.L2R	

**Note**

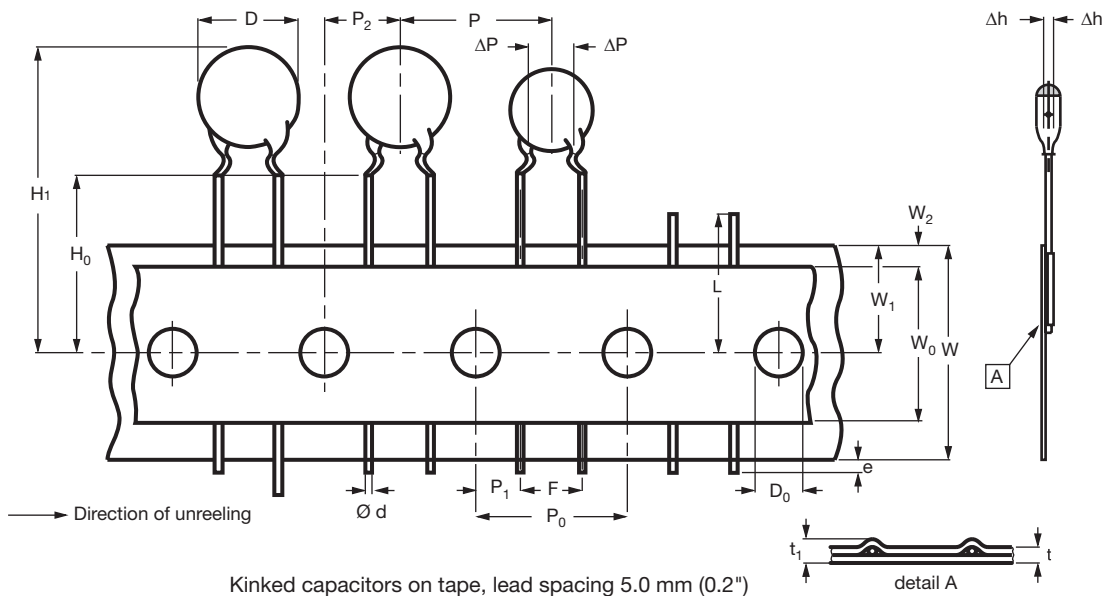
(1) SH = seated height; DR = run down

- 1. Maximum thickness 3.5 mm
- Lead style codes refer to inward kinked leads and straight leads

PACKAGING				
D <sub>MAX.</sub> (mm)	SIZE CODE	PACKAGING QUANTITIES		
		BULK	REEL	AMMO
5.0 (0.20")	20	1000	2500	2000
6.5 (0.25")	25			
7.5 (0.29")	29			
8.5 (0.33")	33			
10.0 (0.39")	39			
11.0 (0.43")	43			
12.0 (0.47")	47			

**Note**

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





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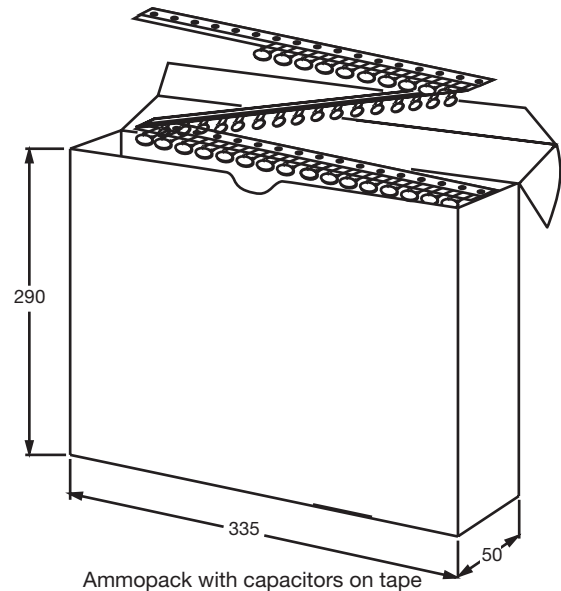
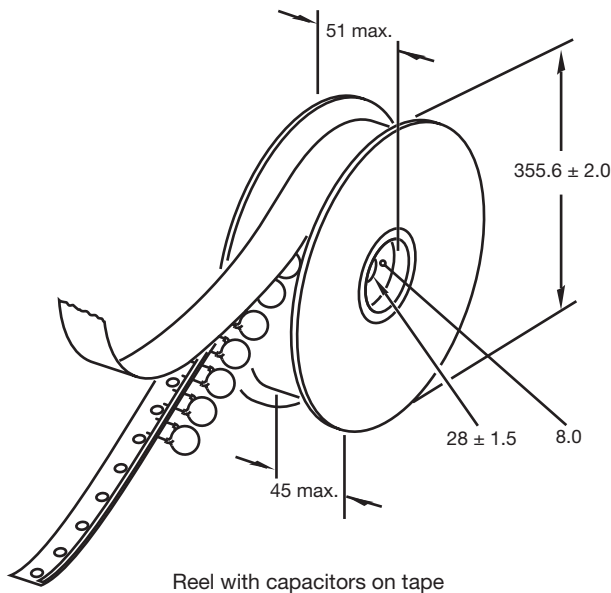
DIMENSION OF TAPE			
SYMBOL	PARAMETER	DIMENSIONS (mm)	
		NOMINAL	TOLERANCE
D	Body diameter	11.0 maximum	-
d	Lead diameter	0.6	± 0.05
P	Pitch between capacitors	12.7	± 1.0
P <sub>0</sub> <sup>(1)</sup>	Feed-hole pitch	12.7	± 0.3
ΔP	Plane deviation	1.0 maximum	-
P <sub>1</sub> <sup>(2)</sup>	Feed-hole center to lead center	3.85	± 0.7
P <sub>2</sub> <sup>(2)</sup>	Feed-hole center to component center	6.35	± 1.3
F	Lead spacing	5.0	0.6 - 0.4
Δh	Component alignment	0	± 1.0
W	Tape width	18.0	1.0 - 0.5
W <sub>0</sub>	Hold-down tape width	5.0 minimum	-
W <sub>1</sub>	Hole position	9.0	0.75 - 0.5
W <sub>2</sub>	Hold-down tape margin	3.0 maximum	-
H <sub>0</sub>	Height to seating plane	16.0	± 0.5
H <sub>1</sub>	Maximum component height	32.0	-
e	Lead end protrusion	1.0 maximum	-
L	Maximum length of snapped lead	11.0	-
D <sub>0</sub>	Feed-hole diameter	4.0	± 0.2
t	Total tape thickness	0.9 maximum	-
t <sub>1</sub>	Maximum thickness of tape and wires	1.5 maximum	-

## Notes

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

<sup>(2)</sup> Obliquity maximum 3°

## REEL AND TAPE DATA in millimeters



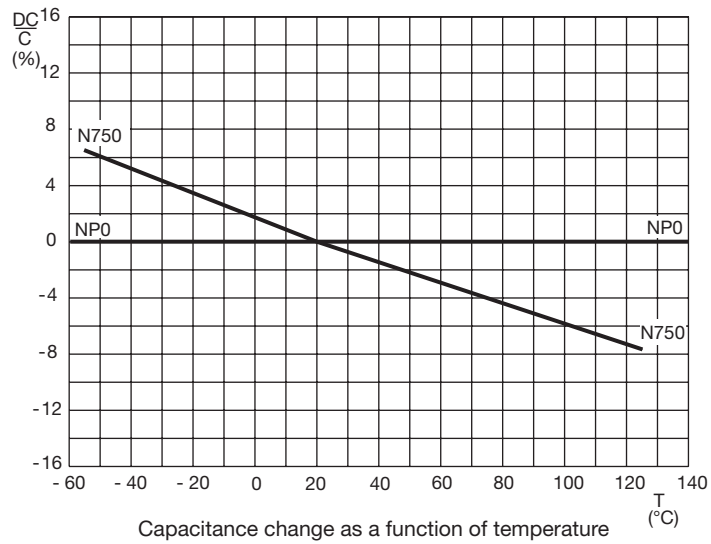
# D Series Narrow Tolerance



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Ceramic Disc Capacitors  
Class 1, 100 V<sub>DC</sub>, Narrow Tolerance

TEMPERATURE COEFFICIENT IN ACCORDANCE WITH RS198		
C = 0.0	0 = - 1	G = ± 30
M = 1.0	1 = - 10	H = ± 60
P = 1.5	2 = - 100	J = ± 120
R = 2.2	3 = - 1000	K = ± 250
S = 3.3	5 = + 1	L = ± 500
T = 4.7	6 = + 10	M = ± 1000
U = 7.5	7 = + 100	N = ± 2500
-	8 = + 1000	-





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