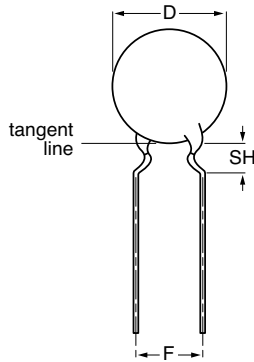


Ceramic Disc Capacitors

Class 1 and 2, 100 V (DC) General Purpose



Capacitors with 5 mm (0.20") lead spacing

FEATURES

- Low losses
- High stability
- High capacitance in small size
- Kinked (preferred) or straight leads
- Lead (Pb)-free available



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 (0.200") and a lead length from 4 to 30 mm. Encapsulation is made of phenolic resin.

TEMPERATURE COEFFICIENTS:

Class 1 NPO; SL0

Class 2 Y5P; Z5U; Y5V; Z5V

SECTIONAL SPECIFICATIONS:

Class 1 IEC 60 384-8,

Class 2 IEC 60 384-9,

EIA 198

CLIMATIC CATEGORY:

Class 1 55/125/21

Class 2 10/85/21 and 30/85/21

OPERATING TEMPERATURE RANGE:

Class 1 - 55 to + 125 °C

Class 2 - 30 to + 85 °C

MARKING

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

CAPACITANCE RANGE:

Class 1, at 1 MHz, 1.2 V (RMS); 1.0 to 100 pF

1 kHz, 1 ± 0.2 V (RMS) for capacitance values higher than 1000 pF

Class 2, at 1 kHz, 1 ± 0.2 V (RMS); 150 to 47 000 pF

RATED DC VOLTAGE:

100 V

DIELECTRIC STRENGTH:

250 % of rated voltage

INSULATION RESISTANCE AT 100 V (DC):

$\geq 10\,000\ \text{M}\Omega$

TOLERANCE ON CAPACITANCE:

± 0.25 pF; ± 0.5 pF; ± 5 % ; ± 10 % ; ± 20 % ; + 80/- 20 %

DISSIPATION FACTOR:

Class 1, $C \leq 30$ pF; $\leq 20 \times (10/C + 0.7) \times 10^{-4}$ maximum

Class 1, $C > 30$ pF; ≤ 0.2 %

Class 2, ≤ 3.0 %

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.



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ORDERING INFORMATION, CLASS 1, 100 V (DC), KINKED					
C (pF)	TOL. (%)	D _{max} (mm)	LEAD SPACING F (mm)	SH ⁽²⁾ (mm)	CLEAR TEXT CODE
					13 th DIGIT: T = REEL; U = AMMO; 3 = BULK 16 th DIGIT: R = RoHS COMPLIANT
CLASS 1 NP0					
1.0	± 0.25 pF	5.0	5.0	4.0	D109C20C0KH6.J5.
1.5					D159C20C0KH6.J5.
2.2					D229C20C0JH6.J5.
3.3					D339C20C0JH6.J5.
4.7					D479C20C0HH6.J5.
6.8	± 0.5 pF				D689D20C0HH6.J5.
10	± 5				D100J20C0GH6.J5.
12					D120J20C0GH6.J5.
15					D150J20C0GH6.J5.
18					D180J20C0GH6.J5.
22		D220J20C0GH6.J5.			
27		D270J20C0GH6.J5.			
33		D330J20C0GH6.J5.			
39		D390J25C0GH6.J5.			
47		D470J25C0GH6.J5.			
CLASS 1 SL0					
56	± 5	5.0	5.0	4.0	D560J20SL0H6.J5.
68					D680J20SL0H6.J5.
82					D820J20SL0H6.J5.
100					D101J20SL0H6.J5.

Notes

1. Maximum thickness 4.0 mm.
2. SH = seated height.
3. Lead style codes refer to inward kinked leads. Other styles available on request.

ORDERING INFORMATION, CLASS 2, 100 V (DC), KINKED					
C (pF)	TOL. (%)	D _{max} (mm)	LEAD SPACING F (mm)	SH ⁽²⁾ (mm)	CLEAR TEXT CODE
					13 th DIGIT: T = REEL; U = AMMO; 3 = BULK 16 th DIGIT: R = RoHS COMPLIANT
CLASS 2 Y5P					
150	± 10	5.0	5.0	4.0	D151K20Y5PH6.J5.
180					D181K20Y5PH6.J5.
220					D221K20Y5PH6.J5.
330					D331K20Y5PH6.J5.
470					D471K20Y5PH6.J5.
680					D681K20Y5PH6.J5.
1000					D102K20Y5PH6.J5.
1500					D152K25Y5PH6.J5.
1800		6.5			D182K25Y5PH6.J5.
2200		D222K25Y5PH6.J5.			
3300		7.5			D332K29Y5PH6.J5.
4700		8.5			D472K33Y5PH6.J5.
6800		10.0			D682K39Y5PH6.J5.
10 000		11.0			D103K43Y5PH6.J5.

ORDERING INFORMATION, CLASS 2, 100 V (DC), KINKED					
C (pF)	TOL. (%)	D _{max} (mm)	LEAD SPACING F (mm)	SH ⁽²⁾ (mm)	CLEAR TEXT CODE
					13 th DIGIT: T = REEL; U = AMMO; 3 = BULK 16 th DIGIT: R = RoHS COMPLIANT
CLASS 2 Z5U					
1000	± 20	5.0	5.0	4.0	D102M20Z5UH6.J5.
1500					D152M20Z5UH6.J5.
2200					D222M20Z5UH6.J5.
3300					D332M20Z5UH6.J5.
4700					D472M25Z5UH6.J5.
6800		6.5			D682M25Z5UH6.J5.
10 000		7.5			D103M29Z5UH6.J5.
15 000		8.5			D153M33Z5UH6.J5.
22 000		10.0			D223M39Z5UH6.J5.
CLASS 2 Y5V					
1000	+ 80 /- 20 %	5.0	5.0	4.0	D102Z20Y5VH6.J5.
1500					D152Z20Y5VH6.J5.
2200					D222Z20Y5VH6.J5.
3300					D322Z20Y5VH6.J5.
4700					6.5
6800		7.5			D682Z25Y5VH6.J5.
10 000		8.5			D103Z29Y5VH6.J5.
15 000		10.0			D153Z33Y5VH6.J5.
22 000					D223Z39Y5VH6.J5.
CLASS 2 Z5V					
4700	+ 80 /- 20 %	5.0	5.0	4.0	D472Z20Z5VH6.J5.
10 000		6.5			D103Z25Z5VH6.J5.
22 000		8.5			D223Z33Z5VH6.J5.
47 000		11.0			D473Z43Z5VH6.J5.

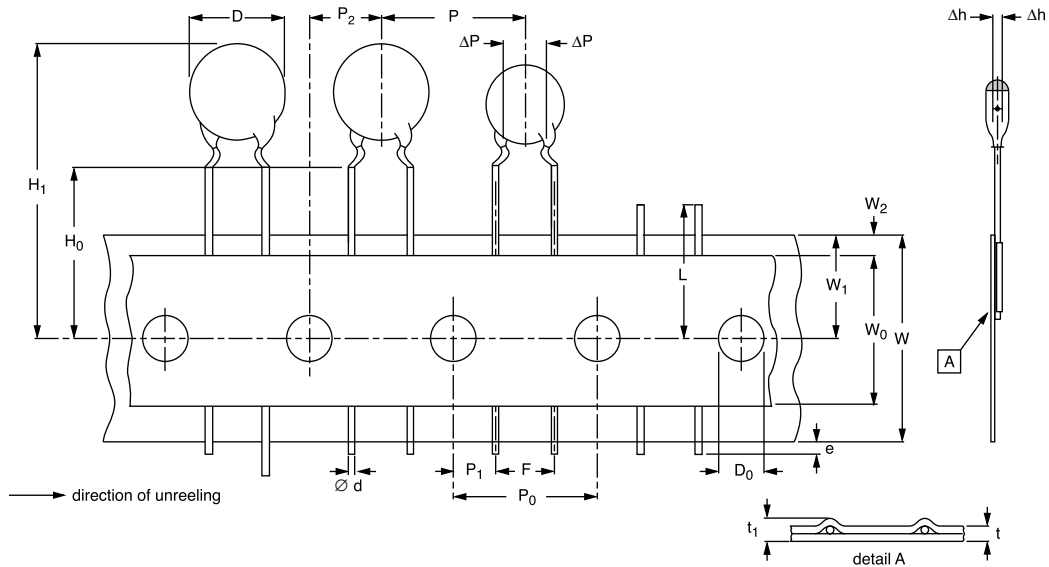
Notes

1. Maximum thickness 4.0 mm.
2. SH = seated height.
3. Lead style codes refer to inward kinked leads. Other styles available on request.

PACKAGING				
D _{max} (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			

Note

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

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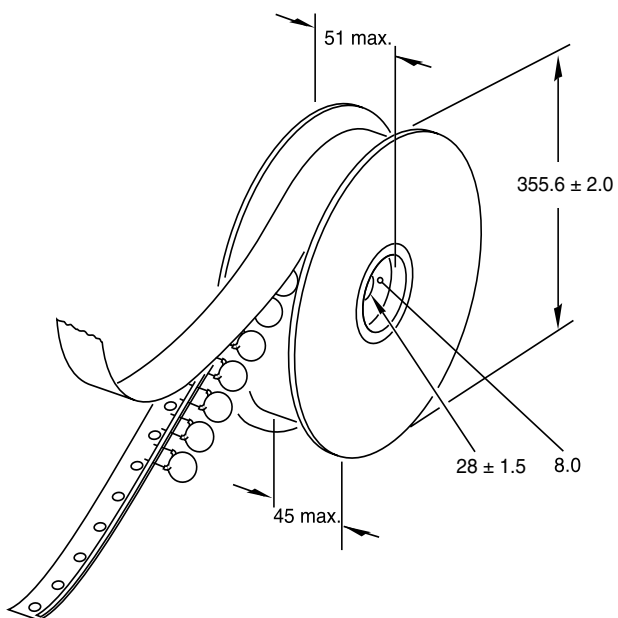
Kinked capacitors on tape, lead spacing 5.0 mm (0.2"), on tape

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	feed-hole pitch	12.7	± 0.3; note 1
ΔP	plane deviation	1.0 maximum	-
P ₁	feed-hole centre to lead centre	3.85	± 0.7; note 2
P ₂	feed-hole centre to component centre	6.35	± 1.3; note 2
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 ₀	hold-down tape width	5.0 minimum	-
W ₁	hole position	9.0	+ 0.75 - 0.5
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	-

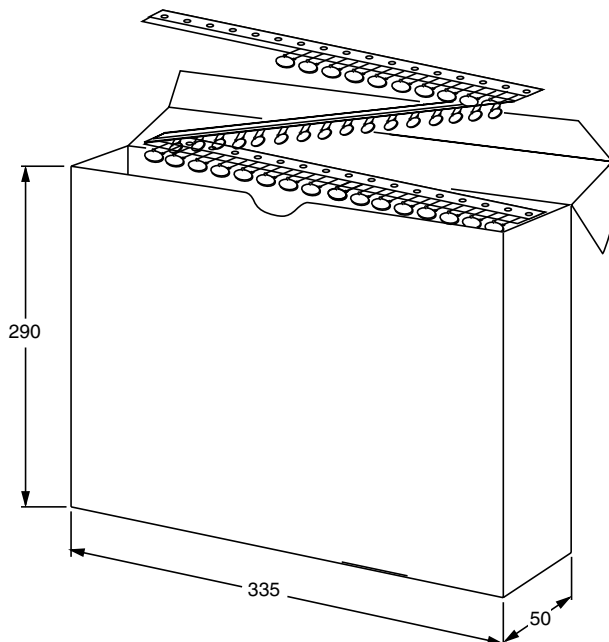
Notes

- Cumulative pitch error: $\pm \leq 1$ mm/20 pitches.
- Obliquity maximum 3°.

REEL AND TAPE DATA in millimeters



Reel with capacitors on tape



Ammopack with capacitors on tape



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