

Ceramic Disc Capacitors

Class 1 and 2, 500 V (DC) General Purpose

FEATURES

- Low losses
- High stability
- High capacitance in small size
- Kinked (preferred) or straight leads.

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") or 7.5 mm (0.300") and a lead length from 4 to 30 mm. Encapsulation is made of phenolic resin.

CAPACITANCE RANGE:

Class 1, at 1 MHz, 1.2 V (RMS); 10 to 82 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); 100 to 22000 pF

RATED DC VOLTAGE:

500 V

DIELECTRIC STRENGTH:

250 % of rated voltage

INSULATION RESISTANCE AT 500V (DC):

≥ 10000 M Ω

TOLERANCE ON CAPACITANCE:

± 5 %; ± 10 %; ± 20 %; + 80 /- 20 %

DISSIPATION FACTOR:

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

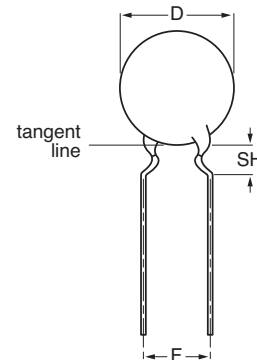
Class 1, $C > 30$ pF; $\leq 20 \times 10^{-4}$

Class 2, ≤ 3.0 %

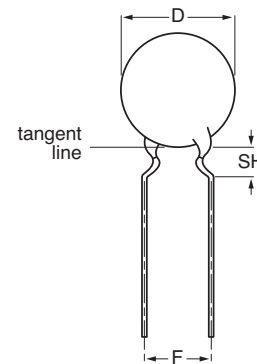
TEMPERATURE COEFFICIENTS:

Class 1 C0G (NP0); SLO

Class 2 Y5P; Z5U; Y5V



Capacitors with 5 mm (0.20") lead spacing.



Capacitors with 7.5 mm (0.30") lead spacing.

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:

Class1 - 55 to +125 °C

Class 2 - 30 to + 85 °C

MARKING

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

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



ORDERING INFORMATION (PREFERRED TYPES), CLASS 1, 500 V (DC), KINKED

C (pF)	TOL. (%)	D _{max} (mm)	LEAD SPACING F (mm)	SH ⁽²⁾ (mm)	CLEAR TEXT CODE	PACKAGING CODE 8 th AND 9 th DIGIT ⁽³⁾			CATALOG NUMBER ⁽⁴⁾	
					13 th DIGIT: T = REEL; U = AMMO; 3 = BULK	REEL	AMMO	BULK		
CLASS 1 NP0										
10	± 5	5.0	5.0	4.0	D100J20C0GL6.J5	06	08	10	2252 508 ..005	
12					D120J20C0GL6.J5				2252 508 ..055	
15					D150J20C0GL6.J5				2252 508 ..105	
18					D180J20C0GL6.J5				2252 508 ..155	
22					6.5				D220J25C0GL6.J5	2252 508 ..205
27									D270J25C0GL6.J5	2252 508 ..255
CLASS 1 SL0										
33	± 5	5.0	5.0	4.0	D330J20SL0L6.J5	06	08	10	2252 568 ..305	
39					D390J20SL0L6.J5				2252 568 ..355	
47					D470J20SL0L6.J5				2252 568 ..405	
56					6.5				D560J20SL0L6.J5	2252 568 ..505
68									D680J25SL0L6.J5	2252 568 ..605
82									D820J25SL0L6.J5	2252 568 ..805

Notes

1. Maximum thickness 4.0 mm.
2. SH = seated height.
3. Packaging codes refer to inward kinked leads. Other styles available on request.
4. 8th and 9th digit of the catalog number to be completed with the packaging code.

ORDERING INFORMATION (PREFERRED TYPES), CLASS 2, 500 V (DC), KINKED

C (pF)	TOL. (%)	D _{max} (mm)	LEAD SPACING F (mm)	SH ⁽²⁾ (mm)	CLEAR TEXT CODE	PACKAGING CODE 8 th AND 9 th DIGIT ⁽³⁾			CATALOG NUMBER ⁽⁴⁾		
					13 th DIGIT: T = REEL; U = AMMO; 3 = BULK	REEL	AMMO	BULK			
CLASS 2 Y5P											
100	± 10	5.0	5.0	4.0	D101K20Y5PL6.J5	06	08	10	2252 618 ..011		
150					D151K20Y5PL6.J5				2252 618 ..111		
220					D221K20Y5PL6.J5				2252 618 ..211		
330					D331K20Y5PL6.J5				2252 618 ..311		
470					D471K20Y5PL6.J5				2252 618 ..411		
680					6.5				D681K25Y5PL6.J5	2252 618 ..611	
1000									D102K25Y5PL6.J5	2252 618 ..021	
1500					7.5				D152K29Y5PL6.J5	2252 618 ..121	
2200					8.5				D222K33Y5PL6.J5	2252 618 ..221	
3300					10.0				D332K39Y5PL6.J5	2252 618 ..321	
4700					11.0				D472K43Y5PL6.J5	2252 618 ..421	
6800					13.5				7.5	D682K53Y5PL6.J7	2252 618 ..621
10000					17.5					D103K69Y5PL6.J7	2252 618 ..031
CLASS 2 Y5V											
1000	+ 80/- 20	5.0	5.0	4.0	D102Z20Y5VL6.J5	06	08	10	2252 638 ..023		
1500					D152Z20Y5VL6.J5				2252 638 ..123		
2200					6.5				D222Z25Y5VL6.J5	2252 638 ..223	
3300									D322Z25Y5VL6.J5	2252 638 ..323	
4700					7.5				D472Z29Y5VL6.J5	2252 638 ..423	
6800					8.5				7.5	D682Z33Y5VL6.J5	2252 638 ..623
10000					10.0					D103Z39Y5VL6.J5	2252 638 ..033
15000					11.0				D153Z43Y5VL6.J5	2252 638 ..133	
22000					13.5				D223Z53Y5VL6.J7	2252 638 ..233	
33000					17.5				D333Z69Y5VL6.J7	2252 638 ..333	



ORDERING INFORMATION (PREFERRED TYPES), CLASS 2, 500 V (DC), KINKED									
C (pF)	TOL. (%)	D _{max} (mm)	LEAD SPACING F (mm)	SH ⁽²⁾ (mm)	CLEAR TEXT CODE	PACKAGING CODE 8 th AND 9 th DIGIT ⁽³⁾			CATALOG NUMBER ⁽⁴⁾
					13 th DIGIT: T = REEL; U = AMMO; 3 = BULK	REEL	AMMO	BULK	
CLASS 2 Z5U									
1000	± 20	5.0	5.0	4.0	D102M20Z5UL6.J5	06	08	10	2252 648 ..022
1500					D152M25Z5UL6.J5				2252 648 ..122
2200					D222M25Z5UL6.J5				2252 648 ..222
3300					D332M29Z5UL6.J5				2252 648 ..322
4700					D472M33Z5UL6.J5				2252 648 ..422
6800					D682M39Z5UL6.J5				2252 648 ..622
10000		11.0	7.5	D103M43Z5UL6.J5	2252 648 ..032				
15000		13.5		D153M53Z5UL6.J7	2252 648 ..132				
22000		15.0		D223M59Z5UL6.J7	2252 648 ..232				

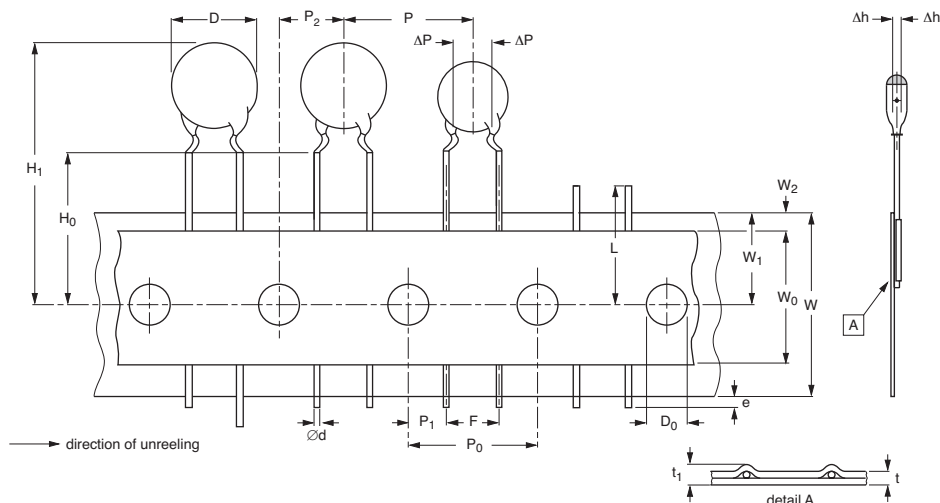
Notes

1. Maximum thickness 4.0 mm.
2. SH = seated height.
3. Packaging codes refer to inward kinked leads. Other styles available on request.
4. 8th and 9th digit of the catalog number to be completed with the packaging code.

PACKAGING				
D _{max} mm	SIZE CODE	PACKAGING QUANTITIES		
		BULK	REEL	AMMO
5.0 (0.20")	20	1000	2000	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	500	-	-
13.5 (0.53")	53			
15.0 (0.59")	59			
17.5 (0.69")	69			

Note

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



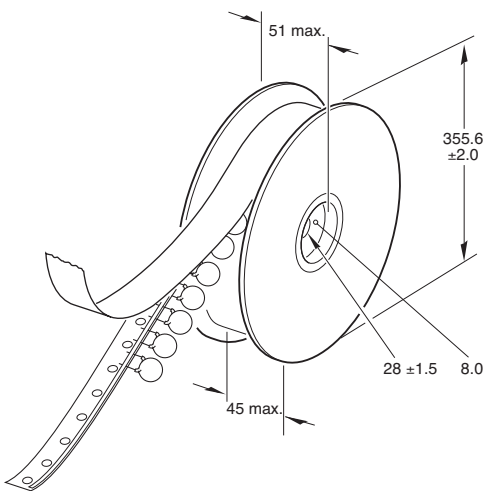
Kinked capacitors on tape, lead spacing 5.0 mm (0.2 inch).

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
Δs	deviation along tape, left or right	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 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	-

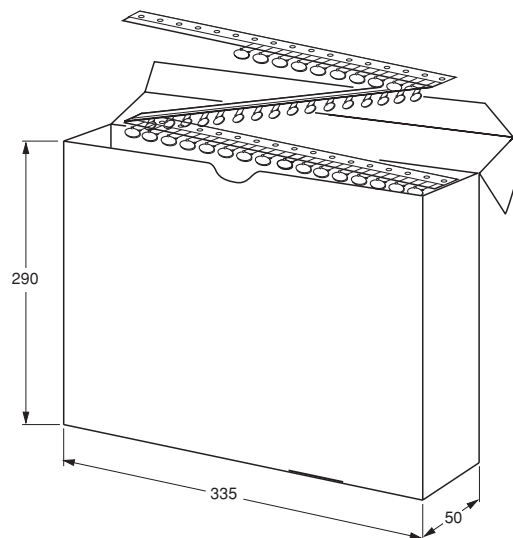
Notes

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

REEL AND TAPE DATA in millimeters



Reel with capacitors on tape.



Ampopack with capacitors on tape.