Ceramic Singlelayer DC Disc Capacitors Class 2, 500 V_{DC}, 1 kV_{DC}, General Purpose

FEATURES

- High capacitance in small size
- Kinked (preferred) or straight leads
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb e3 RoHS COMPLIANT

APPLICATIONS

- Bypassing
- Coupling
- Resonant circuit

QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Ceramic Class	2
Ceramic Dielectric	X7R
Voltage (V_{DC})	500, 1000
Min. Capacitance (pF)	1000
Max. Capacitance (pF)	4700
Mounting	Radial

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 °C ± 3 °C, at normal atmospheric conditions.

OPERATING TEMPERATURE RANGE

Class 2, - 55 °C to +125 °C

TEMPERATURE COEFFICIENTS

Class 2, X7R

SECTIONAL SPECIFICATIONS

Class 2, IEC 60 384-9,

EIA 198

CLIMATIC CATEGORY

Class 2, 55/125/21

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 mm to 30 mm. Encapsulation is made of phenolic resin for 500 V_{DC} and epoxy resin for 1 kV_{DC}.

CAPACITANCE RANGE

Class 2, at 1 kHz, 1 V_{RMS} ± 0.2 V_{RMS}; 1000 pF to 4700 pF

RATED DC VOLTAGE

500 V and 1 kV

DIELECTRIC STRENGTH

250 % of rated voltage for 500 V_{DC}

200 % of rated voltage for 1 kV_{DC}

INSULATION RESISTANCE AT 500 V_{DC}

≥ 10 000 MΩ

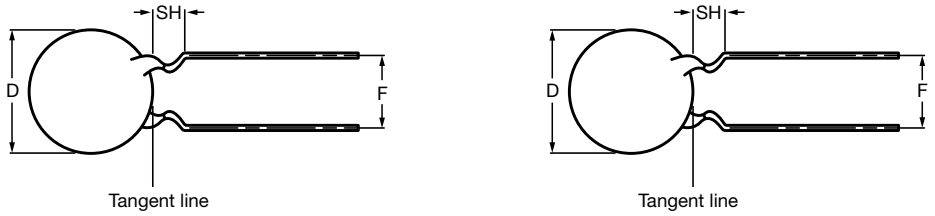
TOLERANCE ON CAPACITANCE

± 10 %; ± 20 %

DISSIPATION FACTOR

Class 2, ≤ 2.5 %

DIMENSIONS



Capacitors with 5 mm (0.20") and 7.5 mm (0.30") lead spacing

ORDERING INFORMATION (PREFERRED TYPES), CLASS 2, 500 V_{DC}, KINKED

C (pF)	TOL. (%)	$D_{MAX.}$ (mm)	LEAD SPACING (mm)	SH [1] (mm)	CLEAR TEXT CODE 13TH DIGIT: T = REEL; U = AMMO; 3 = BULK
CLASS 2 X7R					
1000	± 10	6.5	5.0	4.0	H102K25X7RL6.J5R
1500		7.5			H152K29X7RL6.J5R
2200		8.5			H222K33X7RL6.J5R
3300		10			H332K39X7RL6.J5R
4700		12	7.5		H472K47X7RL6.J7R

Notes

[1] SH = Seated height

- Maximum thickness 4.0 mm
- Lead style codes refer to inward kinked leads. Other styles available on request

ORDERING INFORMATION (PREFERRED TYPES), CLASS 2, 1 kV_{DC}, KINKED

C (pF)	TOL. (%)	$D_{MAX.}$ (mm)	LEAD SPACING (mm)	SH [1] (mm)	CLEAR TEXT CODE 13TH DIGIT: T = REEL; U = AMMO; 3 = BULK
CLASS 2 X7R					
1000	± 10	6.5	5.0	4.0	H102K25X7RN6.J5R
1500		8			H152K31X7RN6.J5R
2200		9			H222K35X7RN6.J5R
3300		10.5			H332K41X7RN6.J5R
4700		12	7.5		H472K47X7RN6.J7R

Notes

[1] SH = Seated height

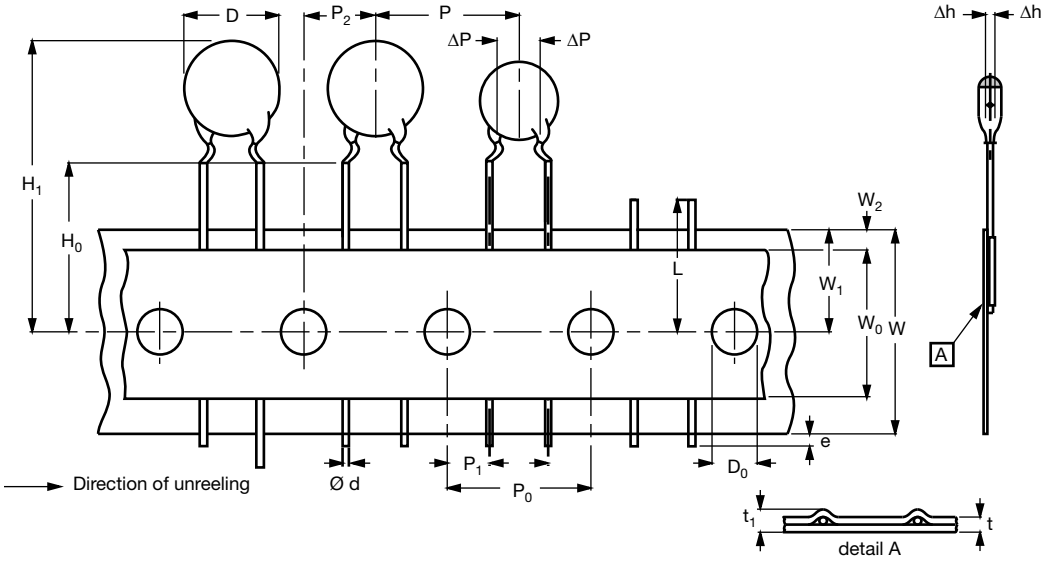
- Maximum thickness 4.0 mm
- Lead style codes refer to inward kinked leads. Other styles available on request

PACKAGING

$D_{MAX.}$ (mm)	SIZE CODE	PACKAGING QUANTITIES		
		BULK	REEL	AMMO
5.0 (0.20")	20	1000	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		-	-
13.5 (0.53")	53	500		
15.0 (0.59")	59			
17.5 (0.69")	69			

Note

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



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

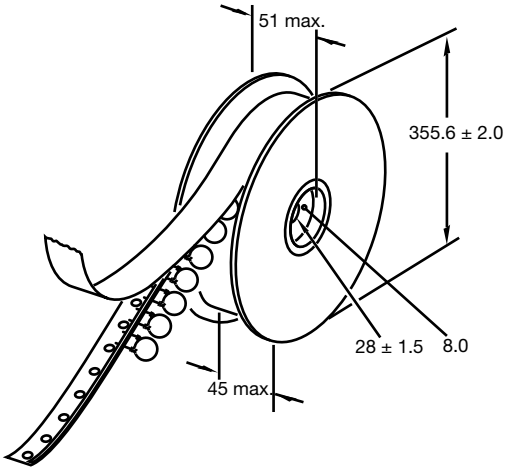
DIMENSIONS OF TAPE			
SYMBOL	PARAMETER	DIMENSIONS (mm)	
		NOMINAL	TOLERANCE
D	Body diameter	11.0 maximum	-
d	Lead diameter	0.6	± 0.05
P	Pitch between capacitors	12.7	± 1.0
P_0 (1)	Feed-hole pitch	12.7	± 0.3
ΔP	Plane deviation	1.0 maximum	-
P_1 (2)	Feed-hole center to lead center	3.85	± 0.7
P_2 (2)	Feed-hole 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_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

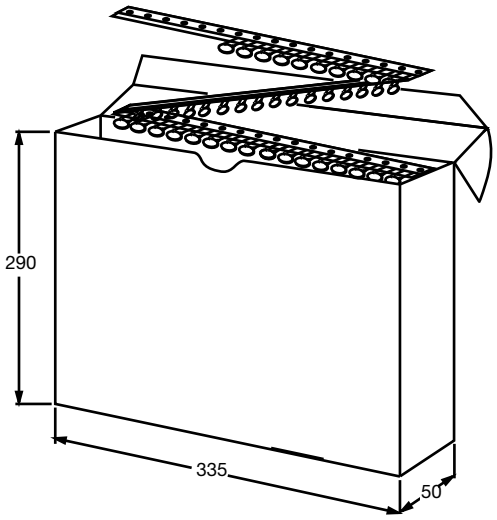
(1) Cumulative pitch error: ± ≤ 1 mm/20 pitches

(2) Obliquity maximum 3°

REEL AND TAPE DATA in millimeters



Reel with capacitors on tape



Ammopack with capacitors on tape

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