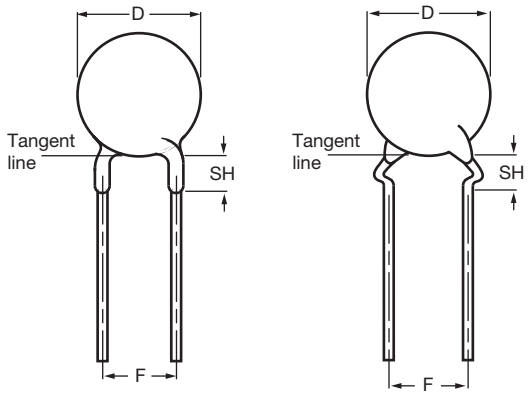
Ceramic Disc Capacitors
Class 1, 4 kV_{DC}



Capacitors with 7.5 mm (0.30") and 10 mm (0.40") lead spacing

FEATURES

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

APPLICATIONS

- DC high voltage
- Pulse high voltage
- LCD backlight inverter

QUICK REFERENCE DATA	
DESCRIPTION	**CLASS 1 (C0G)**
Voltage (V_{DC})	4000
Min. Capacitance (pF)	2
Max. Capacitance (pF)	100
Mounting	Through hole

MARKING

Straight and kinked leaded versions are gold colored Marking indicates capacitance value and tolerance in accordance with “EIA 198”, and voltage.

OPERATING TEMPERATURE RANGE

Class1, C0G; U2J, U2M, - 55 °C to + 125 °C

TEMPERATURE COEFFICIENTS

Class 1, C0G

SECTIONAL SPECIFICATIONS

Class 1, C0G, IEC 60384-8,
EIA 198

CLIMATIC CATEGORY

Class 1, C0G; U2J, U2M 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 or 0.8 mm.

The capacitors may be supplied with kinked or straight leads with a lead spacing of 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 ± 5 % or ± 10 % for class 1 capacitors. Encapsulation is made of gold-colored epoxy-resin, flammable resistant in accordance with “UL 94 V-0”.

CAPACITANCE RANGE

Class 1, at 1 MHz, 1.2 V_{RMS}; 2 pF to 100 pF

RATED DC VOLTAGE

4 kV

DIELECTRIC STRENGTH

According to IEC 384-8, 1.5 x U_R + 500 V_{DC} (6.5 kV_{DC})

INSULATION RESISTANCE AT 500 V_{DC}

≥ 10 000 MΩ

TOLERANCE ON CAPACITANCE

± 5 %; ± 10 %
Other tolerances available on request

DISSIPATION FACTOR

C ≤ 5 pF, 0.55 % max.;
10 pF ≤ C < 33 pF, 20 x (150/C + 7) x 10^{-4};
C ≥ 33 pF, 0.20 % max.

ORDERING INFORMATION, 4 kV_{DC}, KINKED					
C (pF)	TOL. (%)	$D_{MAX.}$ (mm)	LEAD SPACING F (mm)	SH [1] (mm)	CLEAR TEXT CODE 13TH DIGIT: T = REEL; U = AMMO; 3 = BULK
CLASS 1 C0G					
2	± 0.5	6.5	7.5	4.0	S209D25C0KV6.K7R
3					S309D25C0JV6.K7R
5		7.5			S509D29C0HV6.K7R
10	± 5	6.5			S100J25U2JV6.K7R
12		7.5			S120J29U2JV6.K7R
15					S150J29U2JV6.K7R
18		6.5			S180J25U2MV6.K7R
22					S220J25U2MV6.K7R
27					S270J25U2MV6.K7R
33		7.5			S330J29U2MV6.K7R
39					S390J29U2MV6.K7R
47		8.0			S470J31U2MV6.K7R
68		9.0			S680J35U2MV6.K7R
100		10.0			S101J39U2MV6.K7R

Notes

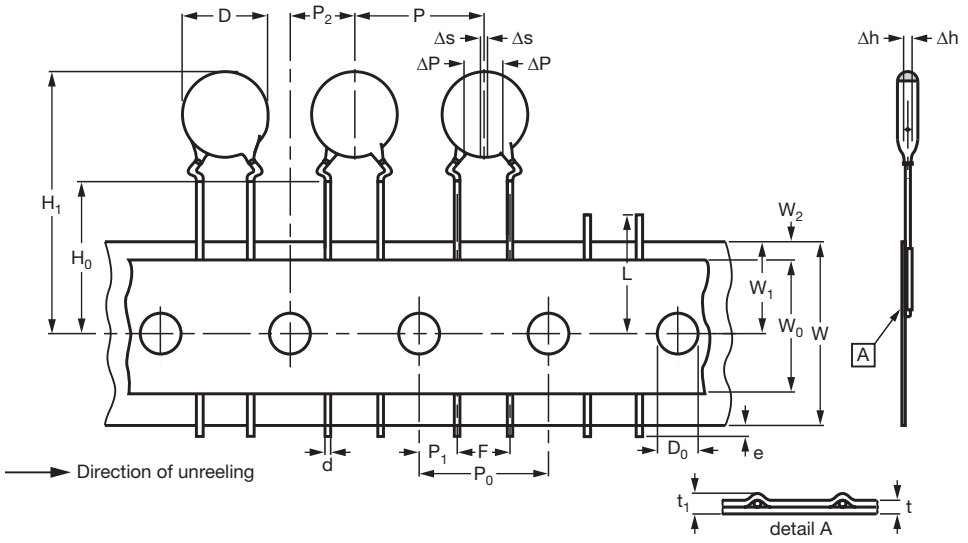
[1] SH = Seated height

- Maximum thickness 5.0 mm
- Refer to outward kinked leads. Other styles available on request (straight or inline kinked leads).

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)	25 to 47	10.0	4 kV	1000	245 x 120 x 65
				1000	
				1000	
	53 to 75			500	

Note

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

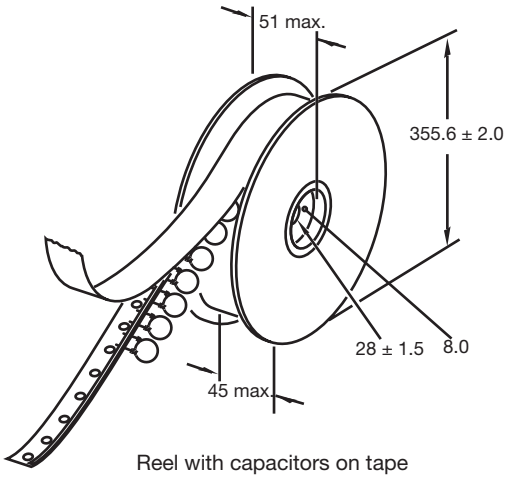


Kinked capacitors on tape, lead spacing 7.5 mm (0.30")

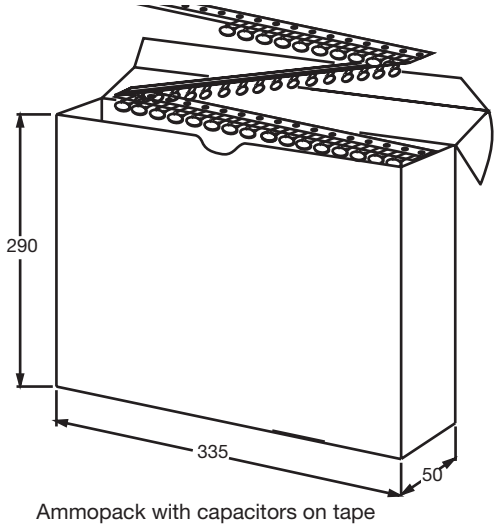
DIMENSIONS OF TAPE			
SYMBOL	PARAMETER	DIMENSIONS (mm)	
		NOMINAL	TOLERANCE
D	Body diameter	14.0 max.	-
d	Lead diameter	0.6	± 0.05
P	Pitch between capacitors	15	± 1.0
P_0 (1)	Feed-hole pitch	15	± 0.3
ΔP	Plane deviation	1.0 max.	-
P_1 (2)	Feed-hole center to lead center	3.75	± 0.7
P_2 (2)	Feed-hole center to component center	7.5	± 1.3
F	Lead spacing	7.5	+ 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 min.	-
W_1	Hole position	9.0	0.75 - 0.5
W_2	Hold-down tape margin	3.0 max.	-
H_0	Height to seating plane	16.0	± 0.5
H_1	Maximum component height	40.0	-
e	Lead end protrusion	1.0 max.	-
L	Maximum length of snipped lead	11.0	-
D_0	Feed-hole diameter	4.0	± 0.2
t	Total tape thickness	0.9 max.	-
t_1	Maximum thickness of tape and wires	1.5 max.	-

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

Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.