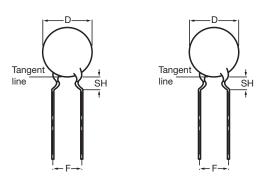
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Ceramic Disc Capacitors Class 1 and 2, 500 V_{DC} , General Purpose



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

QUICK REFERENCE DATA				
DESCRIPTION	CLASS 1 (COG (NPO), SLO)	CLASS 2 (YP5, Z5U, Y5V, X5F)		
Voltage (V _{DC})	500			
Min. Capacitance (pF)	10	100		
Max. Capacitance (pF)	82	22 000		
Mounting	Through hole			

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 \pm 3 °C, at normal atmospheric conditions.

OPERATING TEMPERATURE RANGE

Class 1, - 55 °C to + 125 °C Class 2, - 55 °C to + 85 °C

TEMPERATURE COEFFICIENTS

Class 1, C0G (NP0); SL0 Class 2, Y5P; Z5U; Y5V; X5F

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, 30/85/21 and 55/85/21

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

CAPACITANCE RANGE

Class 1, at 1 MHz, 1.2 V_{RMS} ; 10 pF to 82 pF Class 2, at 1 kHz, 1 \pm 0.2 V_{RMS} ; 100 pF to 22 000 pF 1 kHz, 1 V_{RMS} \pm 0.2 V_{RMS} for capacitance values higher than 1000 pF

RATED DC VOLTAGE

500 V

DIELECTRIC STRENGTH

250 % of rated voltage

INSULATION RESISTANCE AT 500 VDC

 \geq 10 000 M Ω

TOLERANCE ON CAPACITANCE

± 5 %; ± 10 %; ± 20 %; + 80/- 20 %

DISSIPATION FACTOR

Class 1, C \leq 30 pF; \leq 20 x (10/C + 0.7) x 10^-4 maximum Class 1, C > 30 pF; \leq 0.2 % Class 2, \leq 3.0 %

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ORDERING	INFORMATIO	N (PREFERE	D TYPES), CLAS	S 1, 500 V	oc, KINKED	
				SH ⁽¹⁾ (mm)	CLEAR TEXT CODE	
C (pF)	TOL. (%)	D _{MAX.} (mm)	LEAD SPACING (mm)		13 TH DIGIT: T = REEL; U = AMMO; 3 = BULK 16 TH DIGIT: R = RoHS COMPLIANT	
CLASS 1 NP0						
10		5.0		4.0	D100J20C0GL6.J5.	
12					D120J20C0GL6.J5.	
15	± 5		5.0		D150J20C0GL6.J5.	
18	± 5	6.5			D180J25C0GL6.J5.	
22					D220J25C0GL6.J5.	
27					D270J25C0GL6.J5.	
CLASS 1 SL0						
33					D330J20SL0L6.J5.	
39		5.0			D390J20SL0L6.J5.	
47	± 5	5.0	5.0	4.0	D470J20SL0L6.J5.	
56] ±5		5.0		D560J20SL0L6.J5.	
68		6.5			D680J25SL0L6.J5.	
82		6.5			D820J25SL0L6.J5.	

Notes

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

ORDERING	ORDERING INFORMATION (PREFERED TYPES), CLASS 2, 500 V _{DC} , KINKED				
					CLEAR TEXT CODE
С	TOL.	D _{MAX.}	LEAD SPACING	SH ⁽¹⁾	13 TH DIGIT:
(pF)	(%)	(mm)	(mm)	(mm)	T = REEL; U = AMMO; 3 = BULK
	, ,	()	()	()	16 TH DIGIT:
					R = RoHS COMPLIANT
CLASS 2 Y5P	1	T			
100					D101K20Y5PL6.J5.
150					D151K20Y5PL6.J5.
220		5			D221K20Y5PL6.J5.
330]				D331K20Y5PL6.J5.
470					D471K20Y5PL6.J5.
680		6.5	5	4.0	D681K25Y5PL6.J5.
1000	± 10				D102K25Y5PL6.J5.
1500	- 10	7.5			D152K29Y5PL6.J5.
2200		8.5			D222K33Y5PL6.J5.
3300		10			D332K39Y5PL6.J5.
4700		11			D472K43Y5PL6.J5.
6800		13.5	7.5		D682K53Y5PL6.J7
10 000		17.5	7.5		D103K69Y5PL6.J7.
CLASS 2 Y5V					
1000		5			D102Z20Y5VL6.J5.
1500		5		4.0	D152Z20Y5VL6.J5.
2200		6.5			D222Z25Y5VL6.J5.
3300	+ 80/- 20				D322Z25Y5VL6.J5.
4700		7.5	5		D472Z29Y5VL6.J5.
6800		8.5	7		D682Z33Y5VL6.J5.
10 000		10.0	7		D103Z39Y5VL6.J5.
15 000	1	11.0	7		D153Z43Y5VL6.J5.
22 000	7	13.5	7.5		D223Z53Y5VL6.J7.

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

ORDERING INFORMATION (PREFERED TYPES), CLASS 2, 500 V _{DC} , KINKED					
C (pF)	TOL. (%)	D _{MAX.} (mm)	LEAD SPACING (mm)	SH ⁽¹⁾ (mm)	CLEAR TEXT CODE 13 TH DIGIT: T = REEL; U = AMMO; 3 = BULK 16 TH DIGIT: R = ROHS COMPLIANT
CLASS 2 Z5U	ı				11 - 110110 COIM 21/411
1000					D102M20Z5UL6.J5.
1500	1	5.0			D152M25Z5UL6.J5.
2200	1				D222M25Z5UL6.J5.
3300		7.5	5.0		D332M29Z5UL6.J5.
4700	± 20	8.5	1	4.0	D472M33Z5UL6.J5.
6800		10.0	1		D682M39Z5UL6.J5.
10 000		11.0	1		D103M43Z5UL6.J5.
15 000		13.5	7.5		D153M53Z5UL6.J7.
22 000		15.0	7.5		D223M59Z5UL6.J7.
CLASS 2 X5F					
1 00					D101K20X5FL6.J5.R.
2 20		5.0			D221K20X5FL6.J5.R.
330			5.0	4.0	D331K20X5FL6.J5.R.
470	± 10	6.5			D471K25X5FL6.J5.R.
680					D681K25X5FL6.J5.R.
1000		7.5]		D102K29X5FL6.J5.R.
2200		10.0	<u>] </u>		D222K39X5FL6.J5.R.
3300		12.0	7.5		D332K47X5FL6.J7R.
4700		13.5	7.5	4.8	D472K53X5FL6.J7R.

Note

- (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.}	SIZE CODE	PACKAGING QUANTITIES			
(mm)	SIZE CODE	BULK	REEL	AMMO	
5.0 (0.20")	20				
6.5 (0.25")	25				
7.5 (0.29")	29				
8.5 (0.33")	33	1000	2000	2000	
10.0 (0.39")	39				
11.0 (0.43")	43				
12.0 (0.47")	47				
13.5 (0.53")	53				
15.0 (0.59")	59	500	-	-	
17.5 (0.69")	69				

Note

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

For technical questions, contact: CDC@vishay.com

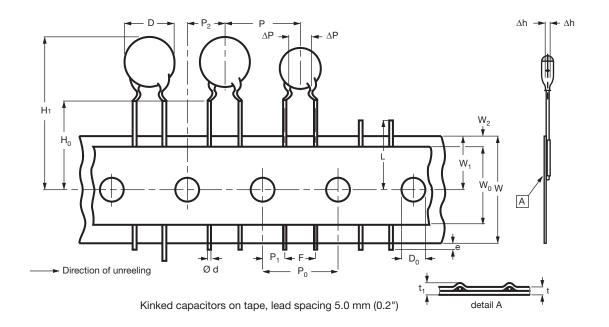
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CVAIDOL	DADAMETED	DIMENSIONS (mm)		
SYMBOL	PARAMETER	NOMINAL	TOLERANCE	
D	Body diameter	11.0 maximum	=	
d	Lead diameter	0.6	± 0.05	
P ⁽¹⁾	Pitch between capacitors	12.7	± 1.0	
P ₀	Feed-hole pitch	12.7	± 0.3	
ΔΡ	Plane deviation	1.0 maximum	=	
P ₁ ⁽²⁾	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	-	
е	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	ī	
t ₁	Maximum thickness of tape and wires	1.5 maximum	-	

Notes

 $^{^{(1)}}$ Cumulative pitch error: $\pm \le 1$ mm/20 pitches

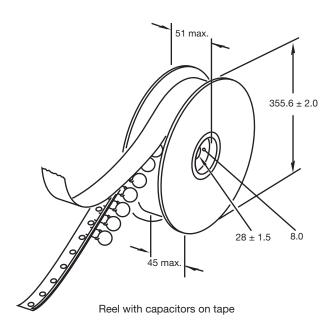
⁽²⁾ Obliquity maximum 3°

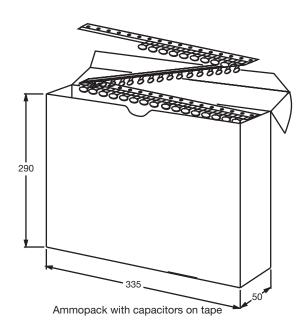
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REEL AND TAPE DATA in millimeters





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