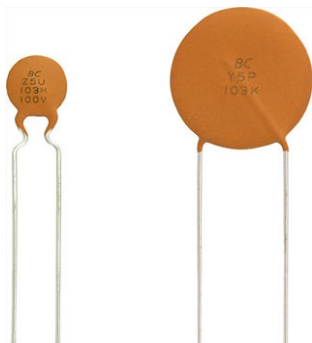


Ceramic Singlelayer DC Disc Capacitors For General Purpose Class 1, Class 2 and Class 3, 50 V_{DC}, 100 V_{DC}, 500 V_{DC}



FEATURES

- High capacitance with small size
- High reliability
- Crimp and straight leadstyles
- Material categorization:
for definitions of compliance please see
www.vishay.com/doc?99912


RoHS
COMPLIANT

APPLICATIONS

- Temperature compensation
- Coupling and decoupling
- Bypassing

QUICK REFERENCE DATA

DESCRIPTION	VALUE							
Ceramic Class	1		2				3	
Ceramic Dielectric	SL0	N750	Y5P	Z5U	X7R	X5F	Y5V	Z5V
Voltage (V _{DC})	50, 100, 500	100, 500	50, 100, 500		500		50, 100, 500	50, 100
Min. Capacitance (pF)	56	6.8	100	1000	100	100	1000	4700
Max. Capacitance (pF)	100	330	10 000	22 000	4700	4700	22 000	47 000
Mounting	Radial							

MARKING

Marking indicates capacitance value and tolerance in accordance with “EIA 198” and voltage marks.

OPERATING TEMPERATURE RANGE

SL0, N750, X7R, X5F: -55 °C to +125 °C

Z5U, Z5V, Y5V: -30 °C to +125 °C

TEMPERATURE CHARACTERISTICS

Class 1: SL0, N750

Class 2: Y5P, Z5U, X7R, X5F

Class 3: Y5V, Z5V

SECTIONAL SPECIFICATIONS

Climatic category (acc. to EN 60058-1)

Class 1 and 2: 55/125/21

Class 3: 30/85/21

APPROVALS

EIA 198

IEC 60384-8

IEC 60384-9

CAPACITANCE RANGE

6.8 pF to 47 nF

TOLERANCE ON CAPACITANCE

± 2 %, ± 5 %, ± 10 %, ± 20 %, +80 %/-20 %

RATED VOLTAGE

50 V_{DC}, 100 V_{DC}, 500 V_{DC}

TEST VOLTAGE

250 % of rated voltage

INSULATION RESISTANCE AT RATED VOLTAGE

10 GΩ min.

DISSIPATION FACTOR

Class 1 0.1 % max. when C ≥ 30 pF
(at 1 MHz; 1 V where C ≤ 1000 pF, and at
1 kHz; 1 V where C > 1000 pF)

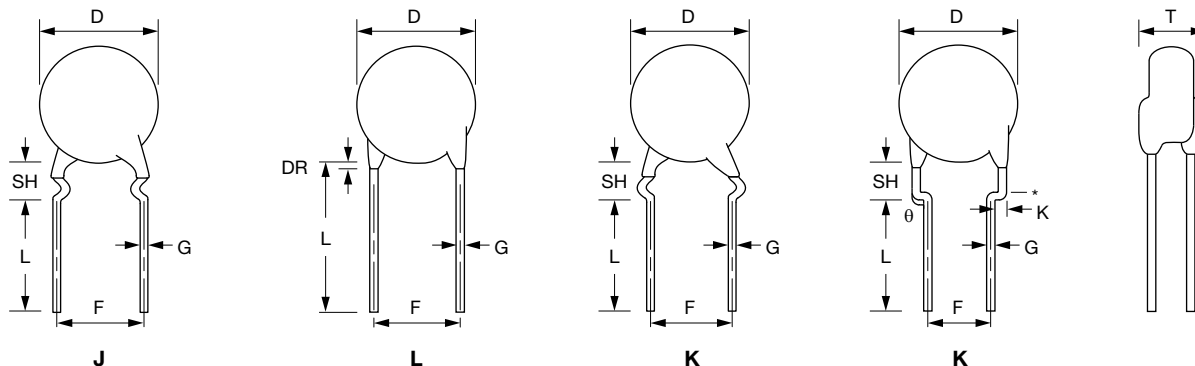
For C < 30 pF: DF = 100/(400 + 20 x C)

DF = dissipation factor in %;

C = capacitance value in pF

Class 2 2.5 % max. (at 1 kHz; 1 V)

Class 3 5 % max. (at 1 kHz; 1 V)

LEAD CONFIGURATION (in millimeters)

Note

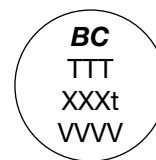
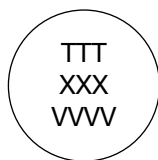
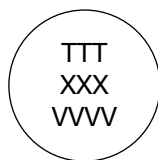
- Lead-spacing 2.5 mm is available for L lead configuration only.

MARKING

Size 20

Size 25

Size 29 and above


Note

- Refer to specified part for detail marking.

ORDERING CODE INFORMATION

D	102	K	25	Y5P	L	6	3	J	5	R
1	2 3 4	5	6 7	8 9 10	11	12	13	14	15	16
Product Type	Capacitance (pF)	Capacitance Tolerance	Size Code	T.C. Code	Rated Voltage	Lead Diameter	Packaging/Lead Length	Lead Style	Lead Spacing	RoHS Compliant
D series	The first two digits are the significant figures of capacitance and the last digit is a multiplier as follows: 0 = * 1 1 = * 10 2 = * 100 3 = * 1000	J = $\pm 5\%$ K = $\pm 10\%$ M = $\pm 20\%$ Z = $+80\%/-20\%$	Please refer to relevant datasheet	Please refer to relevant datasheet	F = 50 V _{DC} H = 100 V _{DC} L = 500 V _{DC}	6 = 0.60 mm ± 0.05 mm	3 = bulk T = tape and reel U = ammo	Please refer to relevant datasheet	2 = 2.5 mm 5 = 5.0 mm 7 = 7.5 mm	



ORDERING CODES

DIELECTRIC SLO (50 V _{DC} /100 V _{DC})						
CAP. (pF)	50 V _{DC}			100 V _{DC}		
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)
56	D560#20SLOF6###	5	3.5	D560#20SLOH6###	5	3.5
68	D680#20SLOF6###	5	3.5	D680#20SLOH6###	5	3.5
82	D820#20SLOF6###	5	3.5	D820#20SLOH6###	5	3.5
100	D101#20SLOF6###	5	3.5	D101#20SLOH6###	5	3.5

DIELECTRIC SLO (500 V _{DC})				
CAP. (pF)	500 V _{DC}			
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)	
33	D330#20SLOL6###	5	3.5	
39	D390#20SLOL6###	5	3.5	
47	D470#20SLOL6###	5	3.5	
56	D560#20SLOL6###	5	3.5	
68	D680#20SLOL6###	6.5	3.5	
82	D820#20SLOL6###	6.5	3.5	

Notes

- Lead diameter is 0.6 mm
- # 5th digit is capacitance tolerance code: $\pm 5\%$ = J; $\pm 10\%$ = K
- # 13th digit is packaging code: Bulk = 3; Reel = T; Ammo = U
- # 14th digit is lead style code: L; J; K (L and J are preferred lead configuration)
- # 15th digit is lead spacing code: 2.5 mm = 2; 5.0 mm = 5; 6.4 mm = 6 (rated voltage 500 V is not available on 2.5 mm lead-spacing)

DIELECTRIC N750						
CAP. (pF)	100 V _{DC}			500 V _{DC}		
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)
6.8	D689C20U2JH6###	5	3.5	D689C20U2JL6###	5	3.5
8.2	D829C20U2JH6###	5	3.5	D829C20U2JL6###	5	3.5
10	D100#20U2JH6###	5	3.5	D100#20U2JL6###	5	3.5
12	D120#20U2JH6###	5	3.5	D120#20U2JL6###	5	3.5
15	D150#20U2JH6###	5	3.5	D150#20U2JL6###	5	3.5
18	D180#20U2JH6###	5	3.5	D180#20U2JL6###	5	3.5
22	D220#20U2JH6###	5	3.5	D220#20U2JL6###	5	3.5
27	D270#20U2JH6###	5	3.5	D270#25U2JL6###	6.5	3.5
33	D330#20U2JH6###	5	3.5	D330#25U2JL6###	6.5	3.5
39	D390#20U2JH6###	5	3.5	D390#29U2JL6###	7.5	3.5
47	D470#20U2JH6###	5	3.5	D470#29U2JL6###	7.5	3.5
56	D560#25U2JH6###	6.5	3.5	D560#33U2JL6###	8.5	3.5
68	D680#25U2JH6###	6.5	3.5	D680#33U2JL6###	8.5	3.5
82	D820#25U2JH6###	6.5	3.5	D820#39U2JL6###	10	3.5
100	D101#29U2JH6###	7.5	3.5	D101#39U2JL6###	10	3.5
120	D121#33U2JH6###	8.5	3.5	D121#47U2JL6###	12	3.5
150	D151#33U2JH6###	8.5	3.5	D151#47U2JL6###	12	3.5
180	D181#39U2JH6###	10	3.5	/	/	/
220	D221#39U2JH6###	10	3.5	/	/	/
270	D271#39U2JH6###	10	3.5	/	/	/
330	D331#47U2JH6###	12	3.5	/	/	/

Notes

- Lead diameter is 0.5 mm
- # 5th digit is capacitance tolerance code: $\pm 2\%$ = G; $\pm 5\%$ = J (which C < 10 pF, the tolerance code is C = ± 0.25 pF)
- # 13th digit is packaging code: bulk = 3; reel = T; ammo = U
- # 14th digit is lead style code: L; J; K (L and J are preferred lead configuration)
- # 15th digit is lead spacing code: 2.5 mm = 2; 5.0 mm = 5; 6.4 mm = 6 (rated voltage 500 V is not available on 2.5 mm lead-spacing)



DIELECTRIC Y5P (50 V _{DC} /100 V _{DC})						
CAP. (pF)	50 V _{DC}			100 V _{DC}		
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)
100	D101#20Y5PF6###	5.0	3.5	D101#20Y5PH6###	5.0	3.5
150	D151#20Y5PF6###	5.0	3.5	D151#20Y5PH6###	5.0	3.5
180	D181#20Y5PF6###	5.0	3.5	D181#20Y5PH6###	5.0	3.5
220	D221#20Y5PF6###	5.0	3.5	D221#20Y5PH6###	5.0	3.5
330	D331#20Y5PF6###	5.0	3.5	D331#20Y5PH6###	5.0	3.5
470	D471#20Y5PF6###	5.0	3.5	D471#20Y5PH6###	5.0	3.5
680	D681#20Y5PF6###	5.0	3.5	D681#20Y5PH6###	5.0	3.5
1000	D102#20Y5PF6###	5.0	3.5	D102#20Y5PH6###	5.0	3.5
1500	D152#20Y5PF6###	5.0	3.5	D152#25Y5PH6###	6.5	3.5
1800	D182#25Y5PF6###	6.5	3.5	D182#25Y5PH6###	6.5	3.5
2200	D222#25Y5PF6###	6.5	3.5	D222#25Y5PH6###	6.5	3.5
3300	D332#25Y5PF6###	6.5	3.5	D332#29Y5PH6###	7.5	3.5
4700	D472#29Y5PF6###	7.5	3.5	D472#33Y5PH6###	8.5	3.5
6800	D682#33Y5PF6###	8.5	3.5	D682#39Y5PH6###	10.0	3.5
10 000	D103#39Y5PF6###	10.0	3.5	D103#43Y5PH6###	11.0	3.5

DIELECTRIC Y5P (500 V _{DC})			
CAP. (pF)	500 V _{DC}		
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)
100	D101#20Y5PL6###	5.0	3.5
150	D151#20Y5PL6###	5.0	3.5
180	D181#20Y5PL6###	5.0	3.5
220	D221#20Y5PL6###	5.0	3.5
330	D331#20Y5PL6###	5.0	3.5
470	D471#20Y5PL6###	5.0	3.5
680	D681#25Y5PL6###	6.5	3.5
1000	D102#25Y5PL6###	6.5	3.5
1500	D152#29Y5PL6###	7.5	3.5
1800	D182#29Y5PL6###	7.5	3.5
2200	D222#33Y5PL6###	8.5	3.5
3300	D332#39Y5PL6###	10.0	3.5
4700	D472#43Y5PL6###	11.0	3.5
6800	D682#53Y5PL6###	13.5	3.5
10 000	D103#69Y5PL6###	17.5	3.5

Notes

- Lead diameter is 0.6 mm
- # 5th digit is capacitance tolerance code: $\pm 10\%$ = K; $\pm 20\%$ = M
- # 13th digit is packaging code: bulk = 3; reel = T; ammo = U
- # 14th digit is lead style code: L; J; K (L and J are preferred lead configuration)
- # 15th digit is lead spacing code: 2.5 mm = 2; 5.0 mm = 5; 6.4 mm = 6; 7.5 mm = 7 (rated voltage 500 V is not available on 2.5 mm lead-spacing)



DIELECTRIC Z5U (50 V _{DC} /100 V _{DC})						
CAP. (pF)	50 V _{DC}			100 V _{DC}		
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)
1000	D102M20Z5UF6###	5.0	3.5	D102M20Z5UH6###	5.0	3.5
1500	D152M20Z5UF6###	5.0	3.5	D152M20Z5UH6###	5.0	3.5
2200	D222M20Z5UF6###	5.0	3.5	D222M20Z5UH6###	5.0	3.5
3300	D332M20Z5UF6###	5.0	3.5	D332M20Z5UH6###	5.0	3.5
4700	D472M20Z5UF6###	5.0	3.5	D472M25Z5UH6###	6.5	3.5
6800	D682M25Z5UF6###	8.5	3.5	D682M25Z5UH6###	6.5	3.5
10 000	D103M29Z5UF6###	10.0	3.5	D103M29Z5UH6###	7.5	3.5
15 000	D153M33Z5UF6###	8.5	3.5	D153M33Z5UH6###	8.5	3.5
22 000	D223M39Z5UF6###	10.0	3.5	D223M39Z5UH6###	10.0	3.5

DIELECTRIC Z5U (500 V _{DC})			
CAP. (pF)	500 V _{DC}		
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)
1000	D102M20Z5UL6###	5.0	3.5
1500	D152M25Z5UL6###	6.5	3.5
2200	D222M25Z5UL6###	6.5	3.5
3300	D332M29Z5UL6###	7.5	3.5
4700	D472M33Z5UL6###	8.5	3.5
6800	D682M39Z5UL6###	10.0	3.5
10 000	D103M43Z5UL6###	11.0	3.5
15 000	D153M53Z5UL6###	13.5	3.5
22 000	D223M59Z5UL6###	15.0	3.5

Notes

- Lead diameter is 0.6 mm
- # 13th digit is packaging code: bulk = 3; reel = T; ammo = U
- # 14th digit is lead style code: L; J; K (L and J are preferred lead configuration)
- # 15th digit is lead spacing code: 2.5 mm = 2; 5.0 mm = 5; 6.4 mm = 6; 7.5 mm = 7 (rated voltage 500 V is not available on 2.5 mm lead-spacing)



DIELECTRIC Y5V (50 V _{DC} /100 V _{DC})						
CAP. (pF)	50 V _{DC}			100 V _{DC}		
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)
1000	D102Z20Y5VF6###	5.0	3.5	D102Z20Y5VH6###	5.0	3.5
1500	D152Z20Y5VF6###	5.0	3.5	D152Z20Y5VH6###	5.0	3.5
2200	D222Z20Y5VF6###	5.0	3.5	D222Z20Y5VH6###	5.0	3.5
3300	D332Z20Y5VF6###	5.0	3.5	D332Z20Y5VH6###	5.0	3.5
4700	D472Z20Y5VF6###	5.0	3.5	D472Z25Y5VH6###	6.5	3.5
6800	D682Z25Y5VF6###	6.5	3.5	D682Z25Y5VH6###	6.5	3.5
10 000	D103Z29Y5VF6###	7.5	3.5	D103Z29Y5VH6###	7.5	3.5
15 000	D153Z33Y5VF6###	8.5	3.5	D153Z33Y5VH6###	8.5	3.5
22 000	D223Z39Y5VF6###	10.0	3.5	D223Z39Y5VH6###	10.0	3.5

DIELECTRIC Y5V (500 V _{DC})			
CAP. (pF)	500 V _{DC}		
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)
1000	D102Z20Y5VL6###	5.0	3.5
1500	D152Z20Y5VL6###	5.0	3.5
2200	D222Z25Y5VL6###	6.5	3.5
3300	D332Z25Y5VL6###	6.5	3.5
4700	D472Z29Y5VL6###	7.5	3.5
6800	D682Z33Y5VL6###	8.5	3.5
10 000	D103Z39Y5VL6###	10.0	3.5
15 000	D153Z43Y5VL6###	11.0	3.5
22 000	D223Z53Y5VL6###	13.5	3.5

Notes

- Lead diameter is 0.6 mm
- # 13th digit is packaging code: bulk = 3; reel = T; ammo = U
- # 14th digit is lead style code: L; J; K (L and J are preferred lead configuration)
- # 15th digit is lead spacing code: 2.5 mm = 2; 5.0 mm = 5; 6.4 mm = 6; 7.5 mm = 7 (rated voltage 500 V is not available on 2.5 mm lead-spacing)

DIELECTRIC Z5V						
CAP. (pF)	50 V _{DC}			100 V _{DC}		
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)
4700	D472Z20Z5VF6###	5.0	3.5	D472Z20Z5VH6###	6.5	3.5
10 000	D103Z25Z5VF6###	6.5	3.5	D103Z25Z5VH6###	7.5	3.5
22 000	D223Z29Z5VF6###	7.5	3.5	D223Z33Z5VH6###	8.5	3.5
33 000	D333Z39Z5VF6###	10.0	3.5	D333Z39Z5VH6###	10.0	3.5
47 000	D473Z39Z5VF6###	10.0	3.5	D473Z43Z5VH6###	11.0	3.5

Notes

- Lead diameter is 0.6 mm
- # 13th digit is packaging code: bulk = 3; reel = T; ammo = U
- # 14th digit is lead style code: L; J; K (L and J are preferred lead configuration)
- # 15th digit is lead spacing code: 2.5 mm = 2; 5.0 mm = 5; 6.4 mm = 6; 7.5 mm = 7 (rated voltage 500 V is not available on 2.5 mm lead-spacing)

**DIELECTRIC X5F**

CAP. (pF)	500 V _{DC}		
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)
100	D101#20X5FL6###	5.0	3.5
150	D151#20X5FL6###	5.0	3.5
220	D221#20X5FL6###	5.0	3.5
330	D331#20X5FL6###	5.0	3.5
470	D471#25X5FL6###	6.5	3.5
680	D681#25X5FL6###	6.5	3.5
1,000	D102#29X5FL6###	7.5	3.5
1,500	D152#33X5FL6###	8.5	3.5
2,200	D222#39X5FL6###	10.0	3.5
3,300	D332#47X5FL6###	12.0	3.5
4,700	D472#53X5FL6###	13.5	3.5

Notes

- Lead diameter is 0.6 mm
- # 5th digit is capacitance tolerance code: $\pm 10\%$ = K; $\pm 20\%$ = M
- # 13th digit is packaging code: bulk = 3; reel = T; ammo = U
- # 14th digit is lead style code: L; J; K (L and J are preferred lead configuration)
- # 15th digit is lead spacing code: 2.5 mm = 2; 5.0 mm = 5; 6.4 mm = 6; 7.5 mm = 7 (rated voltage 500 V is not available on 2.5 mm lead-spacing)

DIELECTRIC X7R

CAP. (pF)	500 V _{DC}		
	ORDERING CODE	DIAMETER (mm max.)	THICKNESS (mm max.)
100	D101#20X7RL6###	5.0	3.5
150	D151#20X7RL6###	5.0	3.5
220	D221#20X7RL6###	5.0	3.5
330	D331#20X7RL6###	5.0	3.5
470	D471#20X7RL6###	5.0	3.5
560	D561#25X7RL6###	6.5	3.5
680	D681#25X7RL6###	6.5	3.5
1,000	D102#29X7RL6###	7.5	3.5
1,500	D152#29X7RL6###	8.5	3.5
2,200	D222#39X7RL6###	10.0	3.5
3,300	D332#43X7RL6###	12.0	3.5
4,700	D472#53X7RL6###	13.5	3.5

Notes

- Lead diameter is 0.6 mm
- # 5th digit is capacitance tolerance code: $\pm 10\%$ = K; $\pm 20\%$ = M
- # 13th digit is packaging code: bulk = 3; reel = T; ammo = U
- # 14th digit is lead style code: L; J; K (L and J are preferred lead configuration)
- # 15th digit is lead spacing code: 2.5 mm = 2; 5.0 mm = 5; 6.4 mm = 6; 7.5 mm = 7 (rated voltage 500 V is not available on 2.5 mm lead-spacing)

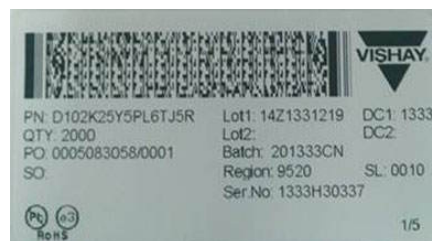
TAPING AND PACKAGING**LABELLING**

Each reel is provided with a label showing the following details:

manufacturer, D style, capacitance, tolerance, batch number, quantity of components, rated voltage, dielectric.

On special request other designations can be shown.

For example:



PACKAGING QUANTITIES AND BOX DIMENSIONS

PACKAGING	SIZE CODE	LEAD SPACING (mm)	RATED VOLTAGE	SMALLEST PACKAGING QUANTITY (SPQ)	BOX DIMENSIONS L x W x H (mm)
Tape on reel	≤ 47	≤ 6.4	< 500	2500	370 x 370 x 60
		> 6.4	500	2000	
	> 47	All	All	1000	
Ammopack	≤ 47	≤ 6.4	≤ 500	2000	335 x 240 x 50
		> 6.4		1500	335 x 290 x 50
	> 47	> 6.4		1000	
Bulk ⁽¹⁾	< 49	All	All	1000	245 x 120 x 65
	≥ 49	All	All	500	

Note

(1) SPQ contains one or a multiple of poly-bags, 1000 units per bag.

CAPACITORS ON TAPE


PARAMETER	SYMBOL	DIMENSIONS (mm)		
Body diameter	D	11.0 Max.	11.0 Max.	14.0 Max.
Lead diameter	d	0.6 ± 0.05	0.6 ± 0.05	0.6 ± 0.05
Pitch of component	p	12.7 ± 1.0	12.7 ± 1.0	15.0 ± 1.0
Pitch of sprocket hole	P ₀	12.7 ± 0.3	12.7 ± 0.3	15.0 ± 0.3
Distance, hole center to lead	P ₁	5.1 ± 0.7	3.85 ± 0.7	3.75 ± 0.7
Distance, hole to center of component	P ₂	6.35 ± 1.3	6.35 ± 1.3	7.5 ± 1.5
Lead spacing	F	2.5 + 0.60/- 0.40	5.0 + 0.60/- 0.40	7.5 + 0.6/- 0.4
Average deviation across tape	Δh	± 1.0 max.	± 1.0 max.	± 1.0 max.
Average deviation in direction of reeling	ΔP	± 1.0 max.	± 1.0 max.	± 1.0 max.
Carrier tape width	W	18.0 + 1.0/- 0.5	18.0 + 1.0/- 0.5	18.0 + 1.0/- 0.5
Hold-down tape width	W ₀	5.0 min.	5.0 min.	5.0 min.
Position of sprocket hole	W ₁	9.0 + 0.75/- 0.5	9.0 + 0.75/- 0.5	9.0 + 0.75/- 0.5
Distance of hold-down tape	W ₂	3.0 max.	3.0 max.	3.0 max.
Maximum component height	H ₁	32 max.	32 max.	40 max.
Height to seating plane (for kinked leads)	H ₀	16.0 ± 0.5	16.0 ± 0.5	16.0 ± 0.5
Height to seating plane (for straight leads)	H ₀	20.0 ± 0.5	20.0 ± 0.5	20.0 ± 0.5
Length of cut leads	L	11.0 max.	11.0 max.	11.0 max.
Length of lead protrusion	e	1.0 max.	1.0 max.	1.0 max.
Diameter of sprocket hole	D ₀	4.0 ± 0.2	4.0 ± 0.2	4.0 ± 0.2
Total tape thickness	t	0.9 max.	0.9 max.	0.9 max.
Maximum thickness of taping and wires	t ₁	1.5 max.	1.5 max.	1.5 max.

RELATED DOCUMENTS

General Information	www.vishay.com/doc?28536
---------------------	--

Ceramic Disc Capacitors

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

FEATURES

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



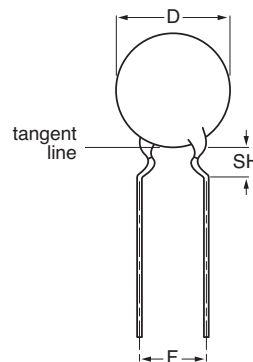
APPLICATIONS

- 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.



Capacitors with 5 mm (0.20") lead spacing.

CAPACITANCE RANGE:

Class 1, at 1 MHz, 1.2 V (RMS); 1.0 to 100 pF
1 kHz, $1 \pm 0.2V$ (RMS) for capacitance values higher than 1000 pF.

Class 2, at 1 kHz, $1 \pm 0.2 V$ (RMS); 150 to 47000 pF

RATED DC VOLTAGE:

100 V

DIELECTRIC STRENGTH:

250 % of rated voltage

INSULATION RESISTANCE AT 100V (DC):

$\geq 10000 M\Omega$

TOLERANCE ON CAPACITANCE:

$\pm 0.25 pF$; $\pm 0.5 pF$; $\pm 5 \%$; $\pm 10 \%$; $\pm 20 \%$; $+ 80 \%$ / $- 20 \%$

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, $\leq 3.0 \%$

TEMPERATURE COEFFICIENTS:

Class 1 NP0; 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".

The capacitors meet the essential requirements of "EIA 198". Unless stated otherwise all electrical values apply at an ambient temperature of $25 \pm 3 ^\circ C$, at normal atmospheric conditions

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

Vishay BCcomponents

ORDERING INFORMATION, CLASS 1, 100 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⁾ 3 rd DIGIT: 5 = STANDARD 8 = RoHS COMPLIANT	
					13 th DIGIT: T = REEL; U = AMMO; 3 = BULK 16 th DIGIT: R = RoHS COMPLIANT	REEL	AMMO	BULK		
CLASS 1 NP0										
1.0	± 0.25 pF	5.0	5.0	4.0	D109C20C0KH6.J5.	06	08	10	22.2 506 ..044	
1.5					D159C20C0KH6.J5.				22.2 506 ..144	
2.2					D229C20C0KH6.J5.				22.2 506 ..244	
3.3					D339C20C0KH6.J5.				22.2 506 ..344	
4.7					D479C20C0KH6.J5.				22.2 506 ..444	
6.8	± 0.5 pF				D689D20C0HH6.J5.				22.2 506 ..645	
10					D100J20C0GH6.J5.				22.2 506 ..005	
12	± 5				D120J20C0GH6.J5.				22.2 506 ..055	
15					D150J20C0GH6.J5.				22.2 506 ..105	
18					D180J20C0GH6.J5.				22.2 506 ..155	
22					D220J20C0GH6.J5.				22.2 506 ..205	
27					D270J20C0GH6.J5.				22.2 506 ..255	
33					D330J20C0GH6.J5.				22.2 506 ..305	
39		6.5			D390J25C0GH6.J5.				22.2 506 ..355	
47					D470J25C0GH6.J5.				22.2 506 ..405	
CLASS 1 SL0										
56		± 5	5.0	5.0	4.0	D560J20SL0H6.J5.	06	08	10	22.2 566 ..505
68	D680J20SL0H6.J5.					22.2 566 ..605				
82	D820J20SL0H6.J5.					22.2 566 ..805				
100	D101J20SL0H6.J5.					22.2 566 ..015				

Notes

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

ORDERING INFORMATION, CLASS 2, 100 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⁾ 3 rd DIGIT: 5 = STANDARD 8 = RoHS COMPLIANT
					13 th DIGIT: T = REEL; U = AMMO; 3 = BULK 16 th DIGIT: R = RoHS COMPLIANT	REEL	AMMO	BULK	
CLASS 2 Y5P									
150	± 10	5.0	5.0	4.0	D151K20Y5PH6.J5.	06	08	10	22.2 616 ..111
180					D181K20Y5PH6.J5.				22.2 616 ..161
220					D221K20Y5PH6.J5.				22.2 616 ..211
330					D331K20Y5PH6.J5.				22.2 616 ..311
470					D471K20Y5PH6.J5.				22.2 616 ..411
680					D681K20Y5PH6.J5.				22.2 616 ..611
1000					D102K20Y5PH6.J5.				22.2 616 ..021
1500		6.5			D152K25Y5PH6.J5.				22.2 616 ..121
1800					D182K25Y5PH6.J5.				22.2 616 ..171
2200					D222K25Y5PH6.J5.				22.2 616 ..221
3300					D332K29Y5PH6.J5.				22.2 616 ..321
4700					D472K33Y5PH6.J5.				22.2 616 ..421
6800					D682K39Y5PH6.J5.				22.2 616 ..621
10000					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	PACKAGING CODE 8 th AND 9 th DIGIT ⁽³⁾			CATALOG NUMBER ⁽⁴⁾ 3 rd DIGIT: 5 = STANDARD 8 = RoHS COMPLIANT	
					13 th DIGIT: T = REEL; U = AMMO; 3 = BULK 16 th DIGIT: R = RoHS COMPLIANT	REEL	AMMO	BULK		
CLASS 2 Z5U										
1000	± 20	5.0	5.0	4.0	D102M20Z5UH6.J5.	06	08	10	22.2 646 ..022	
1500					D152M20Z5UH6.J5.				22.2 646 ..122	
2200					D222M20Z5UH6.J5.				22.2 646 ..222	
3300					D332M20Z5UH6.J5.				22.2 646 ..322	
4700		6.5			D472M25Z5UH6.J5.				22.2 646 ..422	
6800					D682M25Z5UH6.J5.				22.2 646 ..622	
10000					7.5				D103M29Z5UH6.J5.	22.2 646 ..032
15000					8.5				D153M33Z5UH6.J5.	22.2 646 ..132
22000					10.0				D223M39Z5UH6.J5.	22.2 646 ..232
CLASS 2 Y5V										
1000	+ 80/– 20 %	5.0	5.0	4.0	D102Z20Y5VH6.J5.	06	08	10	22.2 636 ..023	
1500					D152Z20Y5VH6.J5.				22.2 636 ..123	
2200					D222Z20Y5VH6.J5.				22.2 636 ..223	
3300					D322Z20Y5VH6.J5.				22.2 636 ..323	
4700		6.5			D472Z20Y5VH6.J5.				22.2 636 ..423	
6800					D682Z25Y5VH6.J5.				22.2 636 ..623	
10000					7.5				D103Z29Y5VH6.J5.	22.2 636 ..033
15000					8.5				D153Z33Y5VH6.J5.	22.2 636 ..133
22000					10.0				D223Z39Y5VH6.J5.	22.2 636 ..233
CLASS 2 Z5V										
4700	+ 80/– 20 %	5.0	5.0	4.0	D472Z20Z5VH6.J5.	06	08	10	22.2 656 ..423	
10000		6.5			D103Z25Z5VH6.J5.				22.2 656 ..033	
22000		8.5			D223Z33Z5VH6.J5.				22.2 656 ..233	
47000		11.0			D473Z43Z5VH6.J5.				22.2 656 ..433	

Notes

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

PACKAGING

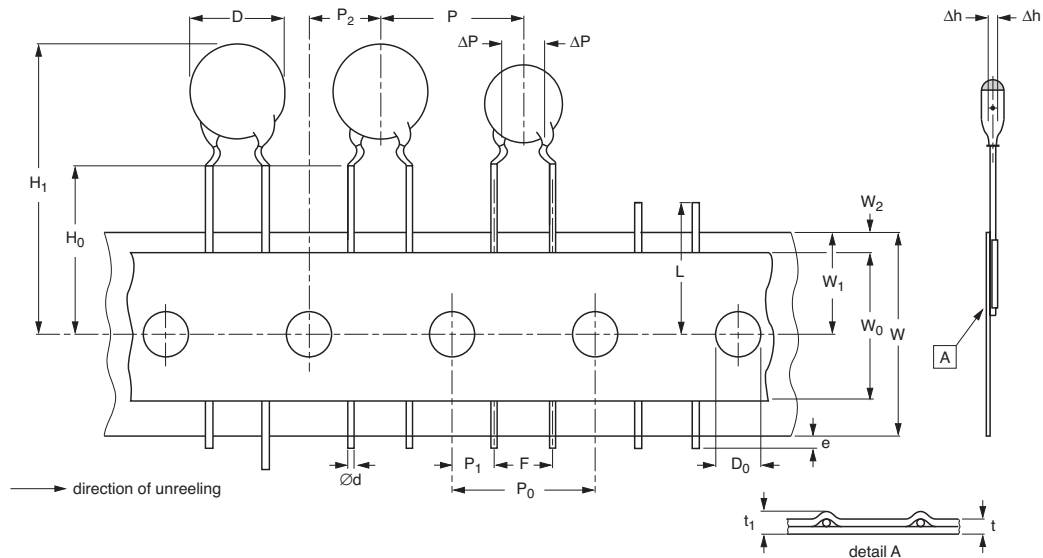
D _{max} (mm)	SIZE CODE	PACKAGING QUANTITIES		
		BULK	REEL	AMMO
5.0 (0.20")	20	1000	2500	2000
6.5 (0.25")	25			
7.5 (0.29")	29			
8.5 (0.33")	33			
10.0 (0.39")	39			
11.0 (0.43")	43			

Note

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

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

Vishay BCcomponents



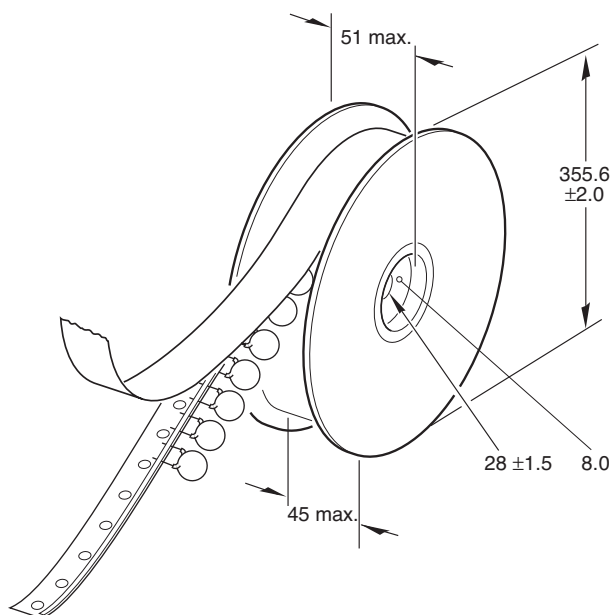
Kinked capacitors on tape, lead spacing 5.0 mm (0.2"), on tape.

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
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 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	-

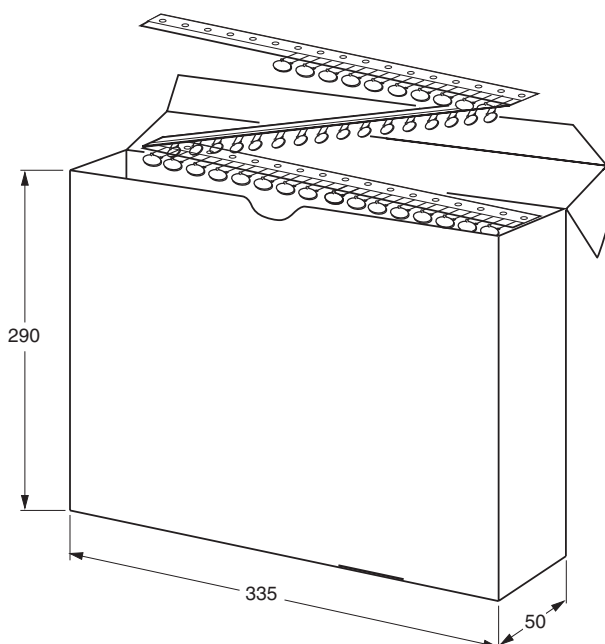
Notes

- Cumulative pitch error: ± 1 mm /20 pitches.
- Obliquity maximum 3°.

REEL AND TAPE DATA in millimeters



Reel with capacitors on tape.



Ammopack with capacitors on tape.