



Ceramic Disc Capacitors Class 1, 100 V (DC) Narrow Tolerance

FEATURES

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



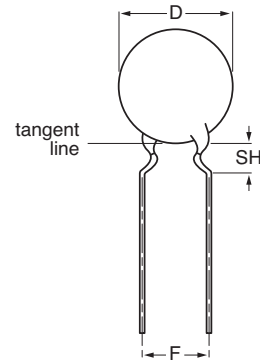
APPLICATIONS

- 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); 1.5 to 560 pF
1 kHz, $1 \pm 0.2V$ (RMS) for capacitance values higher than 1000 pF.

TEMPERATURE COEFFICIENTS:

Class 1 NP0; P100; N150; N750; N1500

RATED DC VOLTAGE:

100 V

SECTIONAL SPECIFICATIONS:

Class 1 IEC 60 384-8,
EIA 198

DIELECTRIC STRENGTH:

250 % of rated voltage

CLIMATIC CATEGORY:

Class 1 55/125/56

INSULATION RESISTANCE AT 100V (DC):

$\geq 10\,000\text{ M}\Omega$

OPERATING TEMPERATURE RANGE:

Class 1 - 55 to + 125 °C

TOLERANCE ON CAPACITANCE:

$\pm 0.25\text{ pF}$; $\pm 0.5\text{ pF}$; $\pm 2\%$

MARKING

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

DISSIPATION FACTOR:

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

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

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

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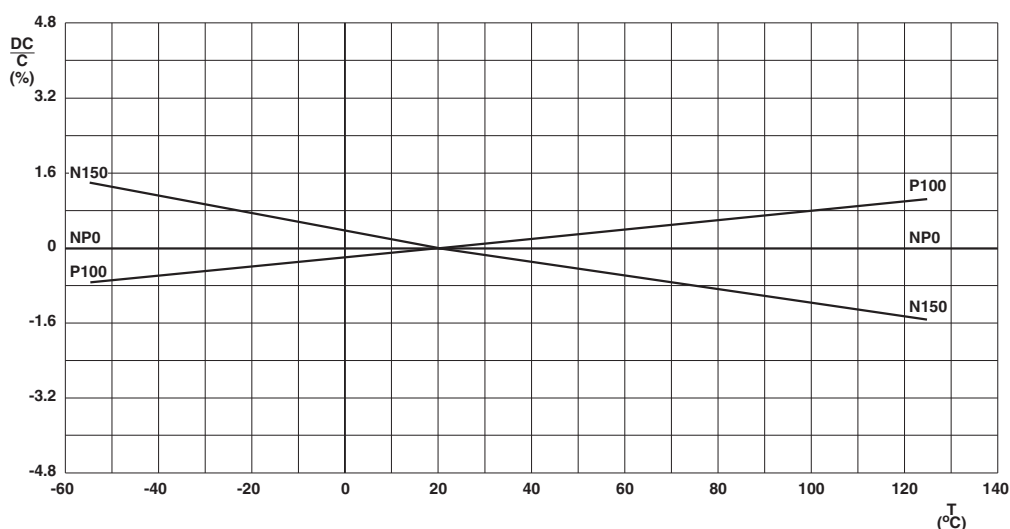
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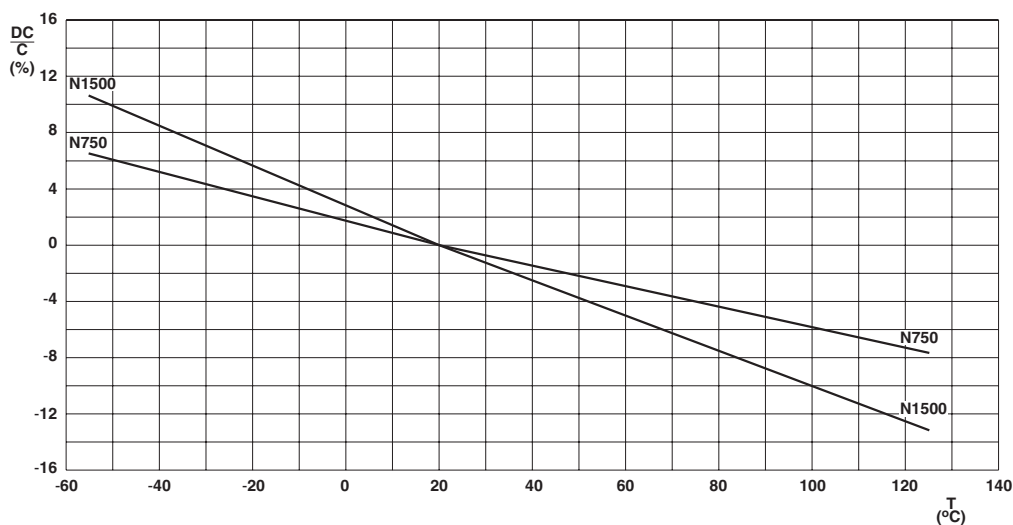


TEMPERATURE COEFFICIENT IN ACCORDANCE WITH "RS198"

C = 0.0	0 = - 1	G = ± 30
M = 1.0	1 = - 10	H = ± 60
P = 1.5	2 = - 100	J = ± 120
R = 2.2	3 = - 1000	K = ± 250
S = 3.3	5 = + 1	L = ± 500
T = 4.7	6 = + 10	M = ± 1000
U = 7.5	7 = + 100	N = ± 2500
-	8 = + 1000	-



Capacitance change as a function of temperature



Capacitance change as a function of temperature



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ORDERING INFORMATION, CLASS 1, 100 V (DC), KINKED										
C (pF)	TOL. (%)	D _{max} (mm)	LEAD SPACING ⁽²⁾ F (mm)	SH ⁽³⁾ (mm)	CLEAR TEXT CODE	PACKAGING CODE 8 th AND 9 th DIGIT ⁽⁴⁾			CATALOG NUMBER ⁽⁵⁾ 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 P100										
1.5	± 0.25 pF	5.0	5.0	4.0	D159C20M7GH6.J5.	06	08	10	22.2 596 ..144	
2.2					D229C20M7GH6.J5.				22.2 596 ..244	
3.3					D339C20M7GH6.J5.				22.2 596 ..344	
4.7					D479C20M7GH6.J5.				22.2 596 ..444	
6.8	D689C20M7GH6.J5.	22.2 596 ..644								
10	± 2 %	6.5			D100G25M7GH6.J5.				22.2 596 ..004	
15		7.5			D150G29M7GH6.J5.				22.2 596 ..104	
22		8.5			D220G33M7GH6.J5.				22.2 596 ..204	
33		10.0			D330G39M7GH6.J5.				22.2 596 ..304	
47		11.0			D470G43M7GH6.J5.				22.2 596 ..404	
CLASS 1 NP0										
1.5	± 0.25 pF	5.0	5.0	4.0	D159C20C0KH6.J5.	06	08	10	22.2 506 ..144	
1.8					D189C20C0KH6.J5.				22.2 506 ..194	
2.2					D229C20C0JH6.J5.				22.2 506 ..244	
3.3					D339C20C0JH6.J5.				22.2 506 ..344	
4.7					D479C20C0HH6.J5.				22.2 506 ..444	
6.8					D689C20C0HH6.J5.				22.2 506 ..644	
10	± 2 %				6.5				D100G20C0GH6.J5.	22.2 506 ..004
15									D150G20C0GH6.J5.	22.2 506 ..104
22									D220G20C0GH6.J5.	22.2 506 ..204
33									D330G20C0GH6.J5.	22.2 506 ..304
47									D470G25C0GH6.J5.	22.2 506 ..404
68		D680G25C0GH6.J5.							22.2 506 ..604	
100		7.5							D101G29C0GH6.J5.	22.2 506 ..014
150		8.5							D151G33C0GH6.J5.	22.2 506 ..114
220		11.0							D221G43C0GH6.J5.	22.2 506 ..214
CLASS 1 N150										
3.9	± 0.25 pF	5.0	5.0	4.0	D399C20P2JH6.J5.	06	08	10	22.2 516 ..394	
4.7					D479C20P2HH6.J5.				22.2516 ..444	
6.8					D689C20P2HH6.J5.				22.2 516 ..644	
10	± 2 %				6.5				D100G20P2GH6.J5.	22.2 516 ..004
15									D150G20P2GH6.J5.	22.2 516 ..104
22									D220G20P2GH6.J5.	22.2 516 ..204
33									D330G20P2GH6.J5.	22.2 516 ..304
47									D470G25P2GH6.J5.	22.2 516 ..404
68		D680G25P2GH6.J5.							22.2 516 ..604	
100		7.5							D101G29P2GH6.J5.	22.2 516 ..014
150		10.0							D151G39P2GH6.J5.	22.2 516 ..114
220	11.0	D221G43P2GH6.J5.			22.2 516 ..214					

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ORDERING INFORMATION, CLASS 1, 100 V (DC), KINKED									
C (pF)	TOL. (%)	D _{max} (mm)	LEAD SPACING ⁽²⁾ F (mm)	SH ⁽³⁾ (mm)	CLEAR TEXT CODE	PACKAGING CODE 8 th AND 9 th DIGIT ⁽⁴⁾			CATALOG NUMBER ⁽⁵⁾ 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 N750									
6.8	± 0.25 pF	5.0	5.0	4.0	D689C20U2JH6.J5.	06	08	10	22.2 556 ..644
10	± 2 %				D100G20U2JH6.J5.				22.2 556 ..004
15					D150G20U2JH6.J5.				22.2 556 ..104
22					D220G20U2JH6.J5.				22.2 556 ..204
33					D330G20U2JH6.J5.				22.2 556 ..304
47					D470G20U2JH6.J5.				22.2 556 ..404
68		6.5			D680G25U2JH6.J5.				22.2 556 ..604
100		7.5			D101G29U2JH6.J5.				22.2 556 ..014
150		8.5			D151G33U2JH6.J5.				22.2 556 ..114
220		10.0			D221G39U2JH6.J5.				22.2 556 ..214
330		12.0			D331G47U2JH6.J5.				22.2 556 ..314
CLASS 1 N1500									
18	± 2 %	5.0	5.0	4.0	D180G20P3KH6.J5.	06	08	10	22.2 586 ..154
22					D220G20P3KH6.J5.				22.2 586 ..204
33					D330G20P3KH6.J5.				22.2 586 ..304
47					D470G20P3KH6.J5.				22.2 586 ..404
68					D680G20P3KH6.J5.				22.2 586 ..604
100		6.5			D101G25P3KH6.J5.				22.2 586 ..014
150		7.5			D151G29P3KH6.J5.				22.2 586 ..114
220		8.5			D221G33P3KH6.J5.				22.2 586 ..214
330		10.0			D331G39P3KH6.J5.				22.2 586 ..314
470		11.0			D471G43P3KH6.J5.				22.2 586 ..414
560		12.0			D561G47P3KH6.J5.				22.2 586 ..514

Notes

- Maximum thickness 4.0 mm.
- 2.5 mm lead spacing is available on request. Straight leads leadstyle L2. Digit 14 (L) and 15 (2) Clear Text Code
- 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			
12.0 (0.47")	47			

Note

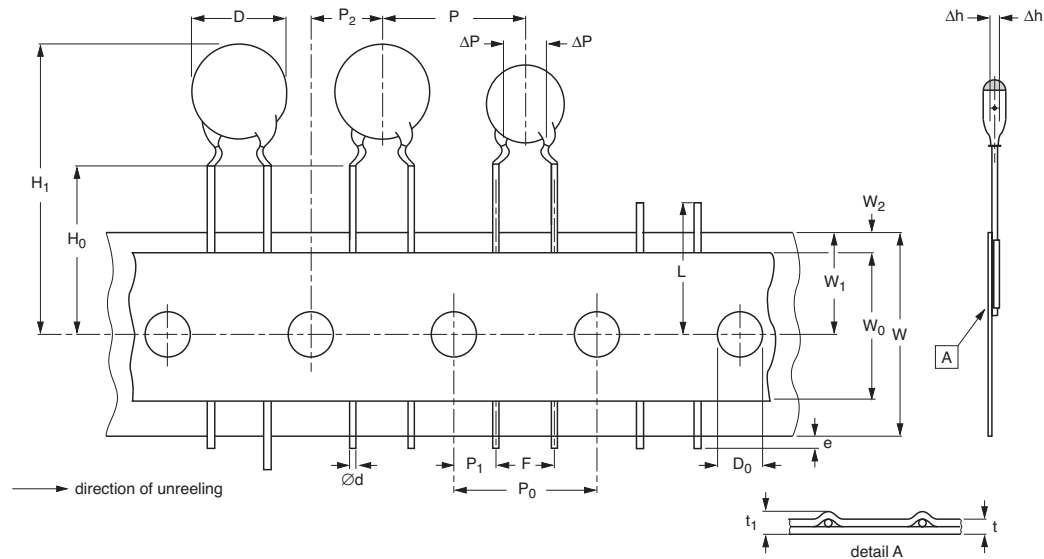
- The capacitors are supplied in bulk packaging (cardboard boxes), in tape on reel or in ammpack.



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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	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

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

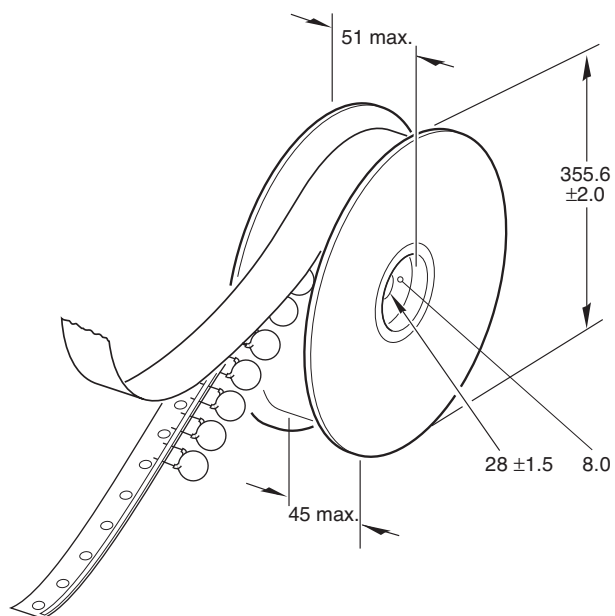
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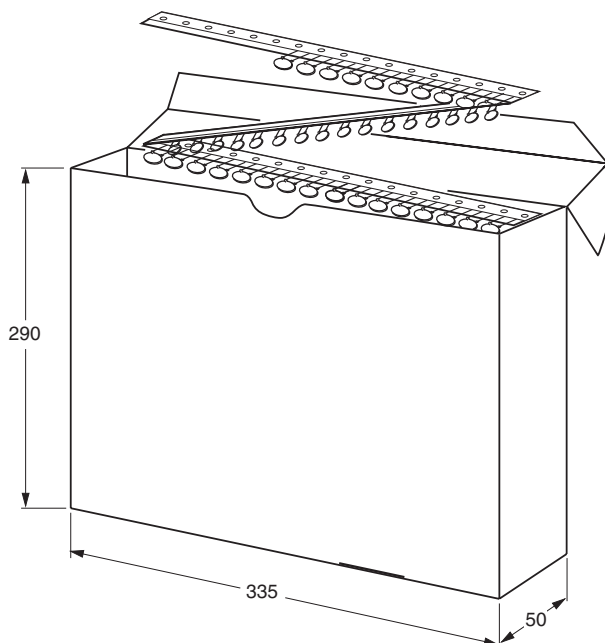
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REEL AND TAPE DATA in millimeters



Reel with capacitors on tape.



Ammopack with capacitors on tape.