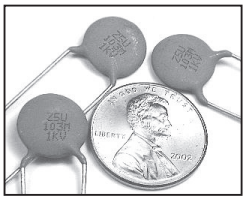
NCD Series

Class 1 Ceramic Disc Capacitors

ROHS/REACH COMPLIANT HALOGEN FREE

NIC COMPONENTS Performance Passives By Design

TEMPERATURE COMPENSATING AND TEMPERATURE STABLE TYPES (CLASS I)

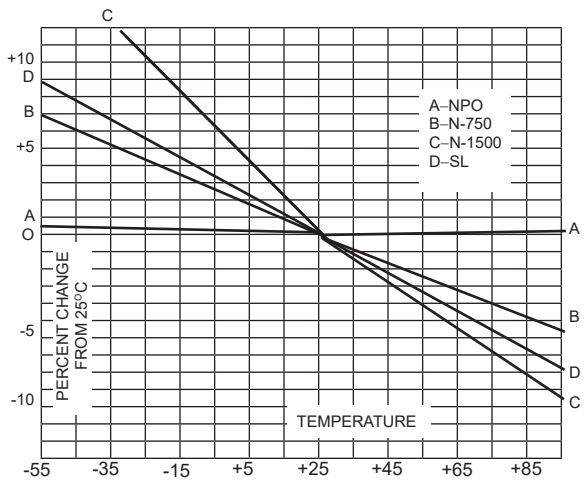


FEATURES

- PROVIDES AN ACCURATE, PREDICTABLE LINEAR CAPACITANCE CHANGE WITH VARIATIONS IN OPERATING TEMPERATURE
- NPO TYPES PROVIDE DRIFT FREE PERFORMANCE
- TIGHT TOLERANCES AVAILABLE
- AVAILABLE WITH FORMED LEADS AND ON TAPE

SPECIFICATIONS

Temperature Characteristics		NPO	N750	SL	N1500
Operating Temperature Range		-30°C ~ +85°C			
Capacitance Range		1.0 ~ 22pF	22 ~ 470pF	10 ~ 1000pF	27 ~ 1000pF
Standard Tolerance		1.0 ~ 4.7pF ±0.25pF (C) or ±0.5pF (D) ≥5pF ±5% (J)	±5% (J)		
Capacitance Change Over Temperature Range		±1%	-5% ~ +7.5%	-5% ~ +9%	-10% ~ +20%
Q Factor (Min. 1MHz)		1000 (C≥30pF) 400+20C (<30pF)			500 (C≥30pF) 200+10C (<30pF)
Insulation Resistance		Minimum 10,000 Megohms			
Temperature Coefficient		0±60ppm	N750±120ppm	N330±500ppm	N1500±250ppm
Working Voltage Range		50Vdc ~ 1KVdc			
Dielectric Withstanding Voltage (Test Voltage)		2.5 Times Rated Voltage For Not Less Than 1 Second, 50mA Maximum			
Load Life Test @ 85°C 1,000 Hours	Cap. Change	±3%	±15%	±30%	±50%
	Q Factor (min.)	Shall Confom To Initial Measurements Above			
	I.R. (min.)	10,000 Megohms			
Test Conditions		<1,000pF; 1MHz, 1.2Vrms Max., ≥1,000pF; 1KHz, 1.2Vrms Max.			



NCD 100 J 500 NPO J .100LS TR F

- F — RoHS compliant
- TR — Optional Packaging: TR = Taped and Reel; TB = Tape and Box (Ammo)
- .100LS — Optional Lead Space (LS) and/or Lead Length (LL) in inches
- J — Optional Lead Style: C = Cut Lead; D = Inside Kink (Short Leads); E = Outward Kink (Short Leads); J = Inside Kink (Long Leads); K = Outward Kink (Long Leads)
- NPO — Temperature Coefficient
- 500 — Working Voltage DC
- J — Tolerance Code: C = ± 0.25pF; D = ± 0.5pF; J = ± 5%
- 100 — Capacitance code, expressed in pfd, First two digits are significant, third digit is no. of zeros. "R" indicates decimal for under 10pfd.
- NCD — Series

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NIC COMPONENTS
Performance Passives By Design

STANDARD PRODUCTS AND MAXIMUM DIAMETER (mm) BY T.C. AND VOLTAGE

Cap. (pF)	NPO				N750				SL				N1500			
	Working Voltage (Vdc)															
	50	100	500	1K	50	100	500	1K	50	100	500	1K	50	100	500	1K
1.0	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
1.2	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
1.5	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
1.8	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
2.0	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
2.2	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
2.5	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
3.0	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
3.3	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
3.9	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
4.0	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
4.7	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
5.0	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
5.6	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
6.0	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
6.8	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
7.0	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
7.5	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
8.0	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
8.2	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
9.0	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
10	6	6	6	6	-	-	-	-	6	6	6	6	-	-	-	-
12	6	6	6	6	-	-	-	-	6	6	6	6	-	-	-	-
15	6	6	6	6	-	-	-	-	6	6	6	6	-	-	-	-
18	6	6	6	-	-	-	-	-	6	6	6	6	-	-	-	-
22	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
27					6	6	6	6	6	6	6	6	6	6	6	6
33					6	6	6	7	6	6	6	6	6	6	6	6
39					6	6	6	7	6	6	6	6	6	6	6	6
47					6	6	7	8	6	6	6	6	6	6	6	6
56					7	7	7	8	6	6	6	6	6	6	6	6
68					7	7	7	9	6	6	6	6	6	6	6	6
82					7	7	7	9	6	6	6	7	6	6	6	7
100					8	8	8	10	6	6	7	7	6	6	7	7
120					8	8	8	10	6	6	7	7	6	6	7	7
150					9	9	9	12	6	6	8	8	6	6	7	8
180					9	9	9	14	6	6	8	8	6	6	8	8
220					10	10	10	16	7	7	9	9	7	7	9	9
270					12	12	12	-	8	8	9	10	8	8	9	10
330					14	14	14	-	8	8	12	12	8	8	12	12
470					16	16	16	-	9	9	14	14	9	9	14	14
560					-	-	-	-	10	10	14	14	10	10	14	14
680					-	-	-	-	11	11	16	16	10	10	16	16
750					-	-	-	-	12	12	16	16	12	12	16	16
820					-	-	-	-	14	14	16	16	12	12	16	16
1000					-	-	-	-	14	14	16	16	14	14	16	16

NIC RESERVES THE RIGHT TO REQUEST MINIMUM QUANTITIES ON CERTAIN VALUES

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NIC COMPONENTS Performance Passives By Design

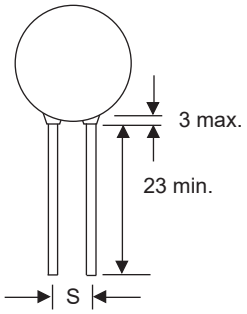
Lead Spacing (mm) - S				
Body Diameter	Standard Bulk	Standard T&R	Optional Bulk mm (inches)	Optional T&R mm (inches)
5 ~ 11	6.35 ± 0.8	5.0 ± 0.8	5.0 ± 0.8 (0.200LS)	2.5 ± 0.8 (0.100LS)
≥12	6.35 ± 0.8	5.0 ± 0.8	7.5 ± 0.8 (0.295LS)	7.5 ± 0.8 (0.295LS)*
			10.0 ± 0.8 (0.395LS)	10.0 ± 0.8 (0.395LS)*

*T&R 7.5mm & 10mm LS not available on 270pF, 330pF & 470pF N750 parts

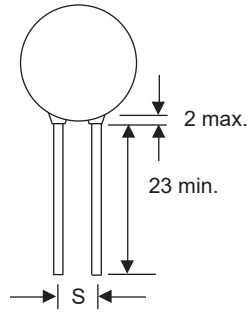
LEAD DIAMETER
0.6MM IS STANDARD

BODY THICKNESS
2 ~ 4MM DEPENDENT ON CV

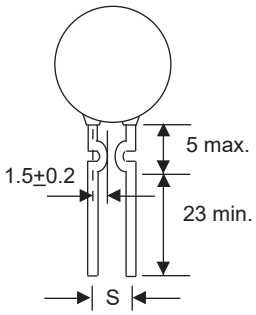
Standard
500Vdc & Up



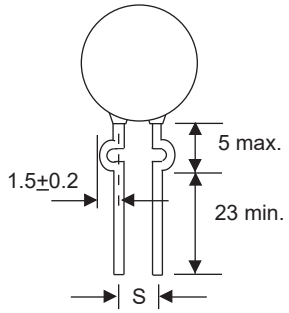
Low Voltage
100Vdc & Below



J Style

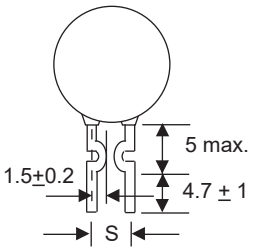


K Style

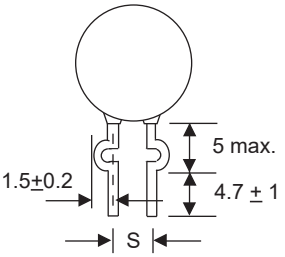


(BULK AND TAPED STYLES)

D Style



E Style



(BULK ONLY)

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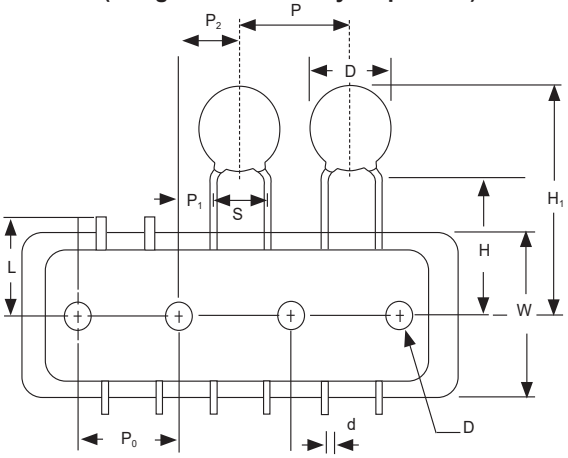
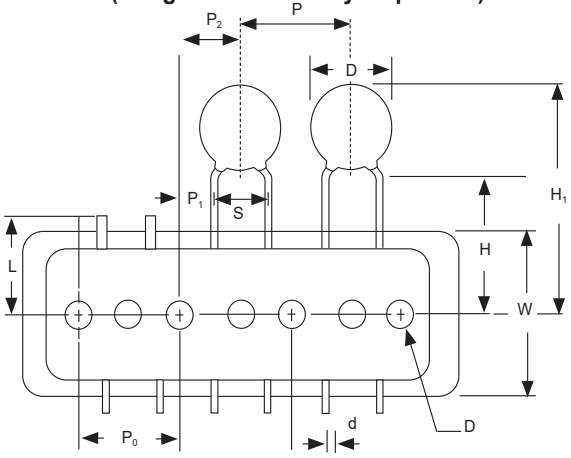
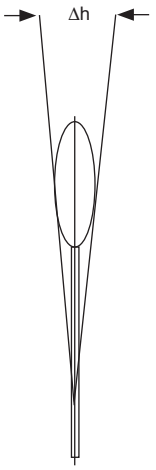
DIMENSIONS (mm)

Straight Leads
≤12mm diameter
(a slight lead flare may be present)

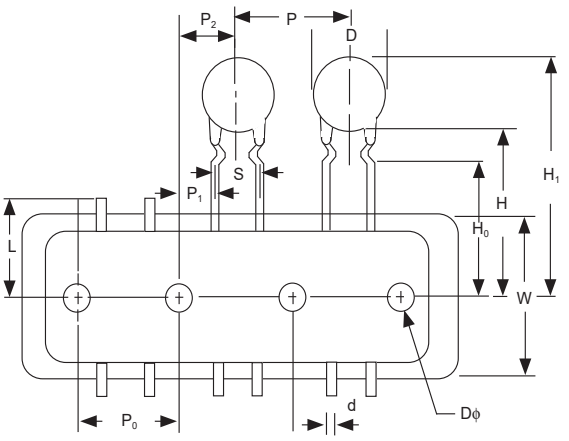


Straight Leads
>12 ~ 23mm diameter
(a slight lead flare may be present)

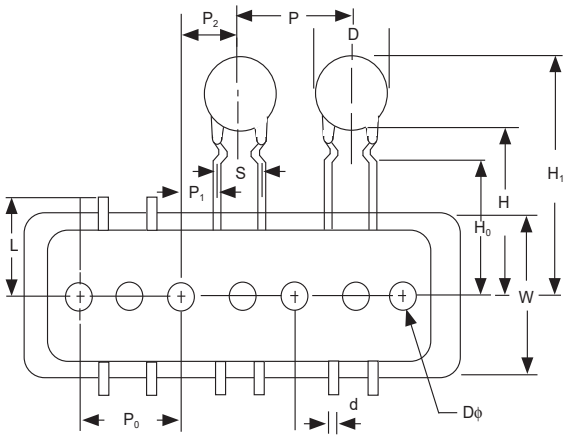


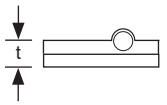


Crimped Leads
≤12mm diameter
Inward (J) & Outward (K) are available



Crimped Leads
>12 ~ 23mm diameter
Inward (J) & Outward (K) are available

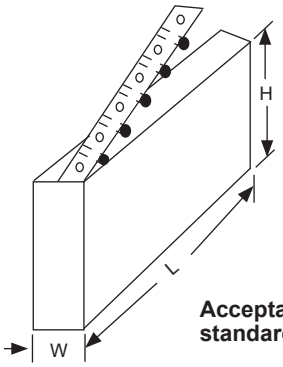




Symbol	D max.	d	P	P_0	P_1	P_2	S	H	H_0	H_1	Dϕ	W	L	t	Δh
Value	≤ 12	0.6	12.7	12.7	5.1	6.35	2.5	20.0	Applies to Parts with Crimped Leads 16.0	32.25 max.	4.0	18.0	11.0 max.	0.6	0.0
					3.85		5.0								
					3.18		6.35								
	>12 ~ 23	0.6 or 0.8*	25.4		8.95	12.7	7.5			H max. + D max.					
					7.7		9.5								
Tolerance	≤ 12	+0.06 -0.05	±1.0	±0.2	±0.7	±1.0	+0.8 -0.2	+1.5 -1.0	±0.5	---	±0.2	±0.5	---	±0.3	±2.0
	>12 ~ 23				±1.5	±1.3									

***Lead diameter dependent on capacitor diameter. Contact NIC for details**

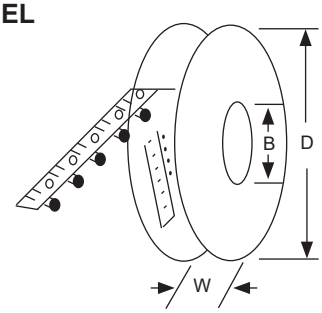
AMMO PACK



H ≤ 372 (14.64")
L ≤ 377 (14.84")
W ≤ 55 (2.16")

Acceptable to standard radial type cartridge.

REEL



D ≦ 354 (13.93")
B ≧ 21 (.83") but ≦ 30 (1.18")
W ≦ 55 (2.16")

Acceptable to standard radial type cartridge with a few extra accessories.

PART NUMBER SUFFIX FOR OPTIONAL TAPE & REEL OR TAPE & BOX PACKAGING

Tape & Reel Straight Lead Options
TRF = Tape & Reel with 5mm lead-space
TR.100LSF = Tape & Reel with 2.0mm lead-space
TR.250LSF = Tape & Reel with 6.35mm lead-space
TR.300LSF = Tape & Reel with 7.5mm lead-space
TR.375LSF = Tape & Reel with 9.5mm lead-space

Tape & Reel Crimped Lead Options (J = Inward Crimp, K = Outward Crimp)
JTRF or KTRF = Tape & Reel with 5mm lead-space
JTR.250LSF or KTR.250LSF = Tape & Reel with 6.35mm lead-space
JTR.300LSF or KTR.300LSF = Tape & Reel with 7.5mm lead-space
JTR.375LSF or KTR.375LSF = Tape & Reel with 9.5mm lead-space

Tape & Box Straight Lead Options
TBF = Tape & Reel with 5mm lead-space
TB.100LSF = Tape & Reel with 2.0mm lead-space
TB.250LSF = Tape & Reel with 6.35mm lead-space
TB.300LSF = Tape & Reel with 7.5mm lead-space
TB.375LSF = Tape & Reel with 9.5mm lead-space

Tape & Box Crimped Lead Options (J = Inward Crimp, K = Outward Crimp)
JTBF or KTBF = Tape & Reel with 5mm lead-space
JTB.250LSF or KTBR.250LSF = Tape & Reel with 6.35mm lead-space
JTB.300LSF or KTB.300LSF = Tape & Reel with 7.5mm lead-space
JTB.375LSF or KTB.375LSF = Tape & Reel with 9.5mm lead-space

Notes:
1. The above lead-space options may not be available in all part diameters. Contact NIC for details.
2. Inward "J style" and outward "K style" may not be available in all part diameters and voltages. Contact NIC for details.