

## 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

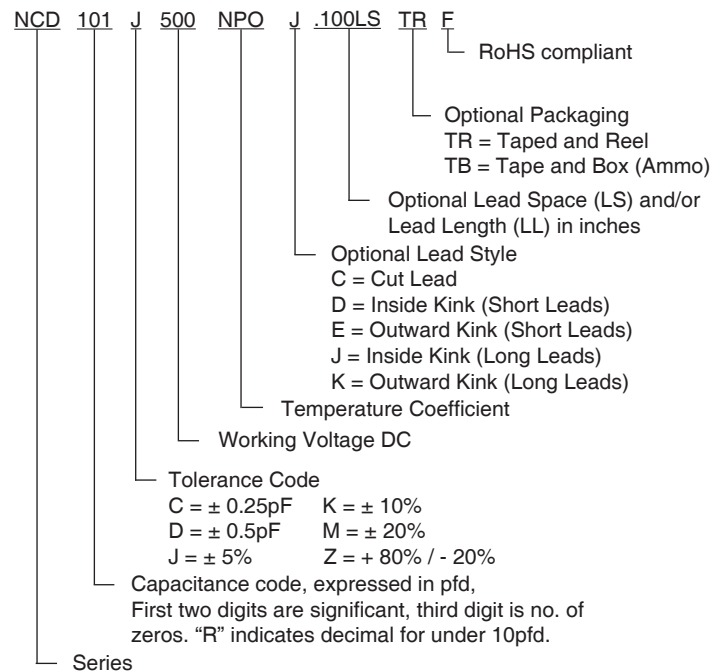
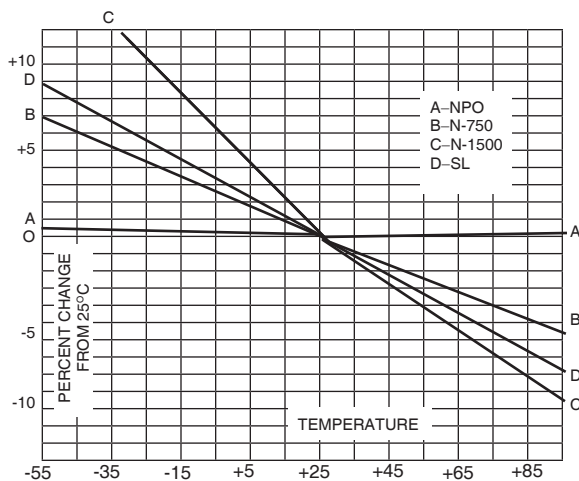


**RoHS Compliant**

Includes all homogeneous materials  
\*See Part Number System for Details

### SPECIFICATIONS

Temperature Characteristics	NPO	N750	SL	N1500	
Operating Temperature Range	-30°C ~ +85°C				
Capacitance Range	0.5 ~ 470pF	22 ~ 470pF	0.5 ~ 1000pF	22 ~ 2200pF	
Standard Tolerance	±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	Cap. Change	±3%	±15%	±30%	±50%
Test @ 85°C	Q Factor (min.)	Shall Conform To Initial Measurements Above			
1,000 Hours	I.R. (min.)	10,000 Megohms			
Test Conditions	<1,000pF; 1MHz, 1.2Vrms Max., ≥1,000pF; 1KHz, 1.2Vrms Max.				

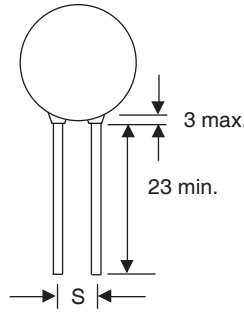


# Ceramic Disc Capacitors

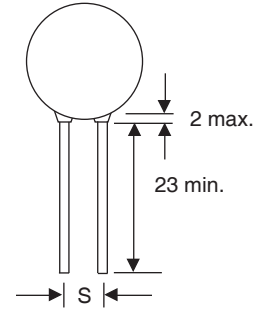
## NCD Series Class I

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)

**Standard**  
500Vdc & Up



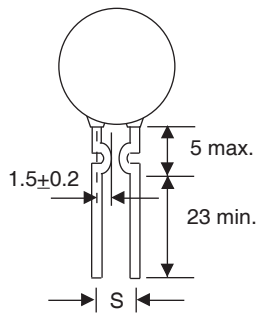
**Low Voltage**  
100Vdc & Below



**LEAD DIAMETER**  
0.6MM IS STANDARD

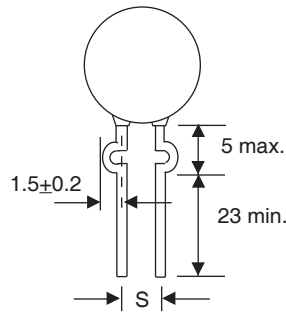
**BODY THICKNESS**  
2 ~ 4MM DEPENDENT ON CV

**J Style**

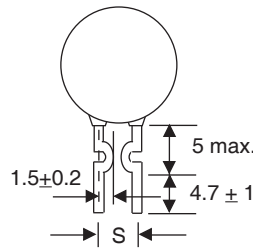


(BULK AND TAPED STYLES)

**K Style**

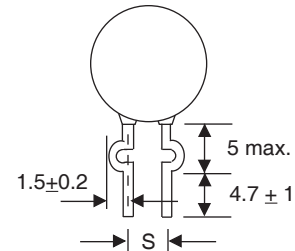


**D Style**



(BULK ONLY)

**E Style**



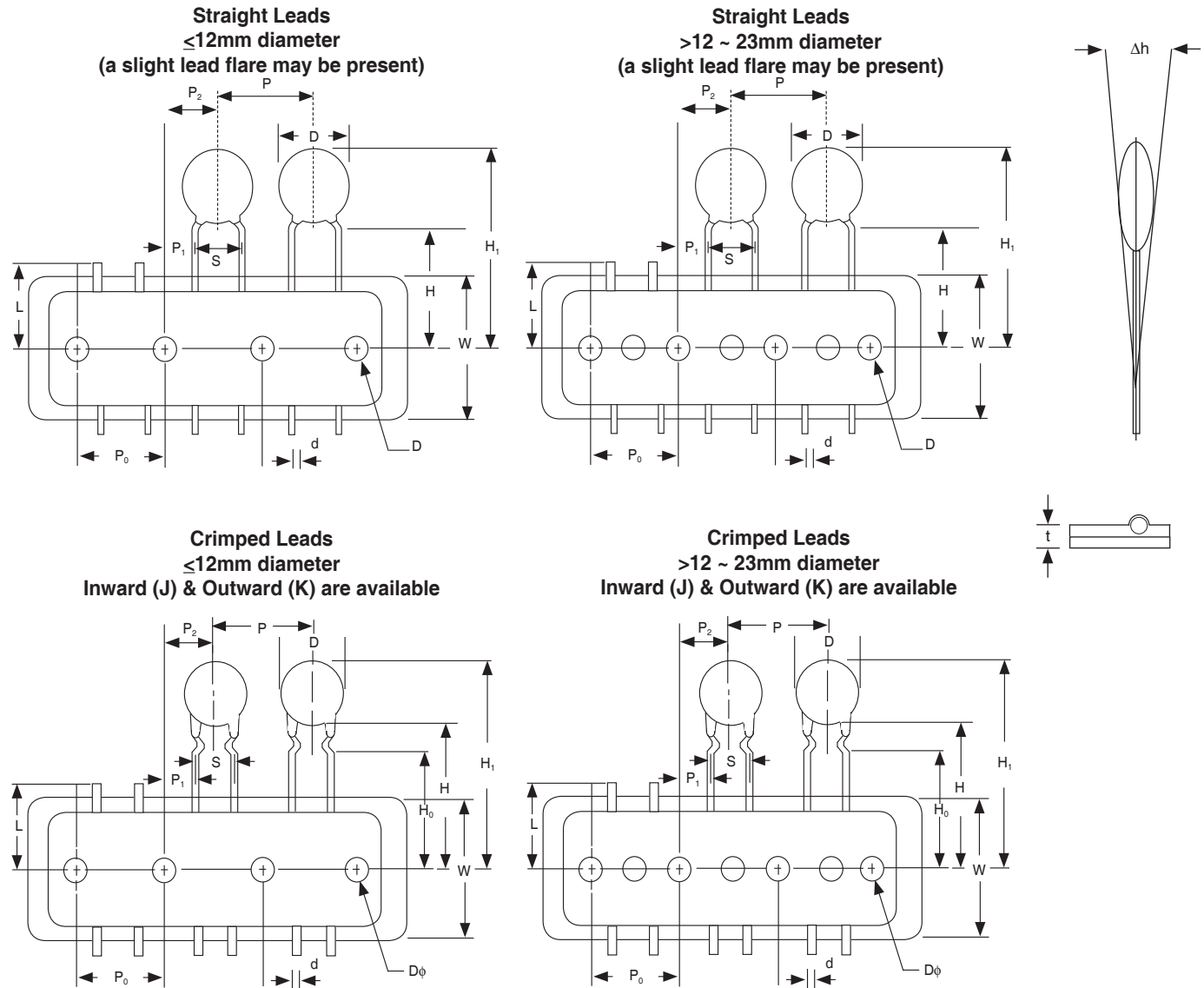
### STANDARD PRODUCTS AND MAXIMUM DIAMETER (mm) BY T.C. AND VOLTAGE

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
0.5 ~ 18	6	6	6	-	-	-	6	6	6	-	-	-
20	6	6	6	6	6	6	6	6	6	-	-	-
22	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	7	6	6	7	6	6	6	6	6	6
39	6	7	7	6	6	7	6	6	6	6	6	6
47	6	7	8	6	7	8	6	6	6	6	6	6
56	7	7	8	7	7	8	6	6	6	6	6	6
68	7	7	9	7	7	9	6	6	6	6	6	6
75	7	7	9	7	7	9	6	6	7	6	6	7
82	7	7	9	7	7	9	6	6	7	6	6	7
100	8	8	10	8	8	10	6	6	7	6	7	7
120	8	8	10	8	8	10	6	6	7	6	7	7
150	9	9	12	9	9	12	6	7	8	6	8	8
180	9	9	14	9	9	14	6	7	8	6	8	8
220	10	10	16	10	10	16	7	8	9	7	9	9
270	12	12	16	12	12	16	8	9	10	8	9	10
330	14	14	18	14	14	18	8	10	12	8	10	12
470	16	16	20	16	16	20	9	12	14	9	12	14
560	-	-	-	-	-	-	10	12	14	10	14	14
680	-	-	-	-	-	-	10	14	16	10	14	16
750	-	-	-	-	-	-	12	16	16	12	16	16
820	-	-	-	-	-	-	12	16	16	12	16	16
1000	-	-	-	-	-	-	14	16	18	14	16	18

NIC RESERVES THE RIGHT TO REQUEST MINIMUM QUANTITIES ON CERTAIN VALUES



## DIMENSIONS (mm)

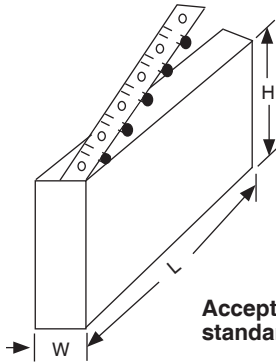


Symbol	D max.	d	P	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	S	H	H <sub>0</sub>	H <sub>1</sub>	D <sub>φ</sub>	W	L	t	Δh
Value	≤ 12	0.6	12.7	12.7	5.1	6.35	2.5	20.0	Applies to Parts with Crimped Leads	32.25 max.	4.0	18.0	11.0 max.	0.6	0.0
					3.85		5.0								
					3.18		6.35								
	>12 ~ 23	0.6 or 0.8*	25.4	8.95	12.7	7.5	16.0	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										

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



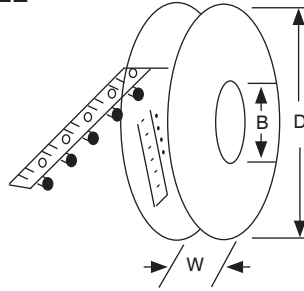
## AMMO PACK



$H \leq 372$  (14.64")  
 $L \leq 377$  (14.84")  
 $W \leq 55$  (2.16")

Acceptable to standard radial type cartridge.

## REEL



$D \leq 354$  (13.93")  
 $B \geq 21$  (.83") but  
 $\leq 30$  (1.18")  
 $W \leq 55$  (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 KTB.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.