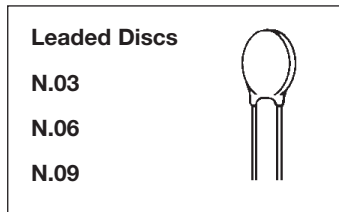
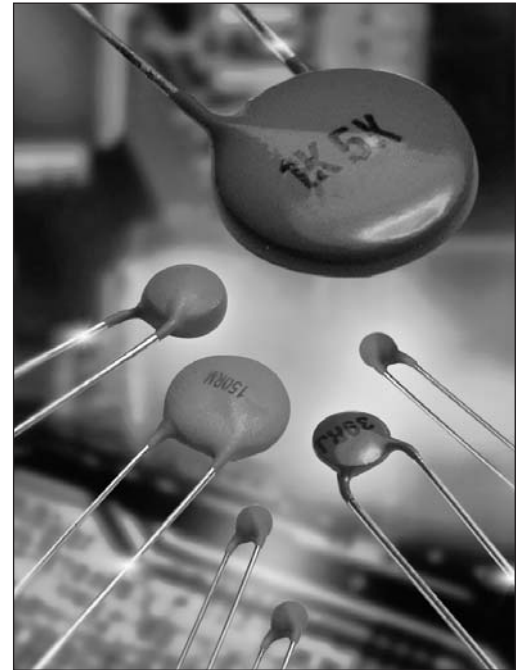


## APPLICATIONS

- Commodity Product: 2 families  
ND or NE : general purpose  
NV : professional
- Alarm and temperature measurement application
- Temperature regulation application
- Level detection application
- Compensation application

## TECHNOLOGY

- ND: epoxy-phenolic resin coating  
NE: epoxy resin coating (recommended for severe mounting conditions)  
NV: epoxy varnish coating
- Leads: Radial copper wire tinned
- Marking: on package only for ND03 & NE03  
ND/NE 06/09: Nominal resistance and tolerance for  $\pm 5\%$ ,  $\pm 10\%$   
NV06/09: Nominal resistance and tolerance
- Delivery Mode: Bulk, reeled or ammpacked



## PERFORMANCE CHARACTERISTICS

Types	General purpose			Professional	
	ND03 or NE03	ND06 or NE06	ND09 or NE09	NV06	NV09
Climatic category				55/125/56-434	55/125/56-434
Operating Temperature	-55 to +150°C	-55 to +150°C	-55 to +150°C	-55 to +150°C	-55 to +150°C
Tolerance on Rn (25°C)	330Ω to 1MΩ : $\pm 5, 10, 20\%$ 1500Ω to 150 kΩ : $\pm 3\%$	$\pm 5\%, \pm 10\%, \pm 20\%$	$\pm 5\%, \pm 10\%, \pm 20\%$	$\pm 2\%, \pm 5\%, \pm 10\%$	$\pm 2\%, \pm 5\%, \pm 10\%$
Maximum dissipation at 25°C	0.25 W	0.71 W	0.9 W	0.69 W	0.85 W
Thermal dissipation factor	5 mW/°C	7.1 mW/°C	9 mW/°C	6.9 mW/°C	8.5 mW/°C
Thermal time constant	10 s	22 s	30 s	18 s	30 s
Response time	< 3s				

## STANDARDIZATION

NV range : approved by NFC 93271  
 Type: TN115 A for NV06  
           TN116 for NV09  
 List: GAM-T1  
 List: LNZ

## OPTIONS

Consult factory for availability of options:

- other nominal resistance values
- other tolerances
- alternative lead materials or lengths
- controlled dimensions

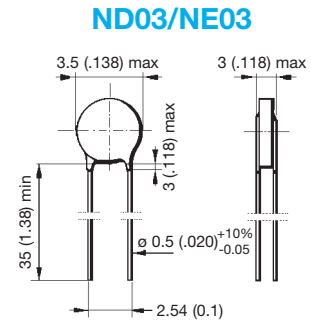
# NTC Disc Thermistors

## ND/NE 03



### TABLE OF VALUES

#### ND03/NE03 TYPE



Part Number	Rn at 25°C (Ω)	Material Code	B (K) ( $\Delta B/B$ (1) ± 5% (2) ± 3%)	α at 25°C (%/°C)
N_03I00331 N_03I00471	330 470	I	3250 (1)	- 3.7
N_03J00681 N_03J00102	680 1,000	J	3480 (2)	- 3.9
N_03K00152 N_03K00222	1,500 2,200	K	3630 (2)	- 4.0
N_03L00272 N_03L00332	2,700 3,300	L	3790 (2)	- 4.2
N_03M00472 N_03M00682	4,700 6,800	M	3950 (2)	- 4.4
N_03N00103 N_03N00153	10,000 15,000	N	4080 (2)	- 4.6
N_03P00223 N_03P00333	22,000 33,000	P	4220 (2)	- 4.7
N_03Q00473 N_03Q00683	47,000 68,000	Q	4300 (2)	- 4.7
N_03R00104 N_03R00154	100,000 150,000	R	4400 (2)	- 4.8
N_03S00224	220,000	S	4520 (2)	- 5.0
N_03T00334 N_03T00474	330,000 470,000	T	4630 (2)	- 5.1
N_03U00105	1,000,000	U	4840 (2)	- 5.3

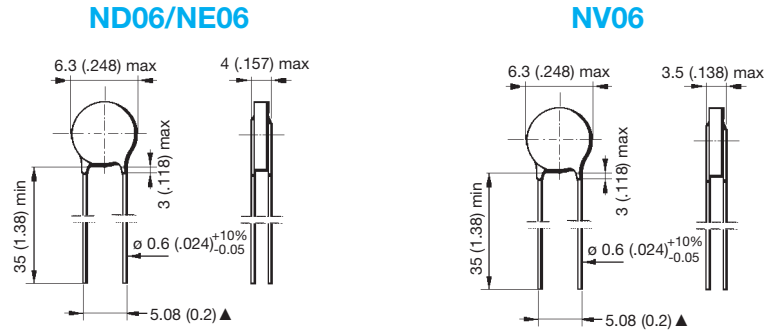
# NTC Disc Thermistors

## ND/NE/NV 06



### TABLE OF VALUES

#### ND06/NE06/NV06



Part Number	R <sub>n</sub> at 25°C (Ω)	Material Code	B (K) ( $\frac{\Delta B}{B}$ (1) ± 5% (2) ± 3%)	α at 25°C (%/°C)
N_06J00151 N_06J00221	150 220	J	3480 (2)	- 3.9
N_06K00331 N_06K00471	330 470	K	3630 (2)	- 4.0
N_06L00681 N_06L00102	680 1,000	L	3790 (2)	- 4.2
N_06M00152	1,500	M	3950 (2)	- 4.4
N_06N00222 N_06N00332	2,200 3,300	N	4080 (2)	- 4.6
N_06P00472 N_06P00682 N_06P00103	4,700 6,800 10,000	P	4220 (2)	- 4.7
N_06Q00153 N_06Q00223	15,000 22,000	Q	4300 (2)	- 4.7
N_06R00333	33,000	R	4400 (2)	- 4.8
N_06S00473 N_06S00683	47,000 68,000	S	4520 (2)	- 5.0
N_06T00104	100,000	T	4630 (2)	- 5.1
N_06U00154 N_06U00224 N_06U00334	150,000 220,000 330,000	U	4840 (2)	- 5.3

For other resistance values, please consult us.

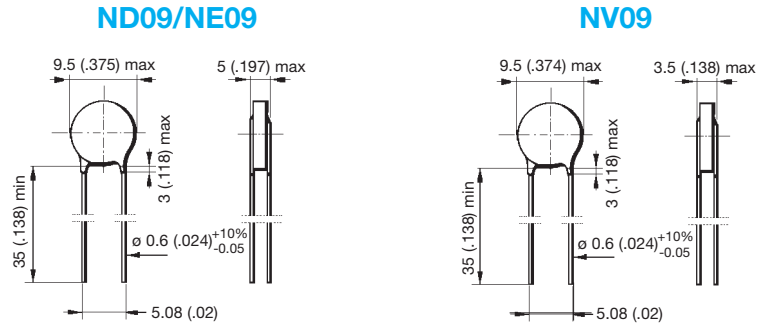
# NTC Disc Thermistors

## ND/NE/NV 09



### TABLE OF VALUES

#### ND09/NE09/NV09



Part Number	Rn at 25°C (Ω)	Material Code	B (K) ( $\frac{\Delta B}{B}$ ) (1) ± 5% (2) ± 3%	α at 25°C (%/°C)
N_09J00680 N_09J00101	68 100	J	3480 (2)	- 3.9
N_09K00151 N_09K00221	150 220	K	3630 (2)	- 4.0
N_09L00331	330	L	3790 (2)	- 4.2
N_09M00471 N_09M00681	470 680	M	3950 (2)	- 4.4
N_09N00102 N_09N00152	1,000 1,500	N	4080 (2)	- 4.6
N_09P00222 N_09P00332	2,200 3,300	P	4220 (2)	- 4.7
N_09Q00472 N_09Q00682	4,700 6,800	Q	4300 (2)	- 4.7
N_09R00103 N_09R00153	10,000 15,000	R	4400 (2)	- 4.8
N_09S00223	22,000	S	4520 (2)	- 5.0
N_09T00333 N_09T00473	33,000 47,000	T	4630 (2)	- 5.1
N_09U00683 N_09U00104 N_09U00154	68,000 100,000 150,000	U	4840 (2)	- 5.3

# NTC Disc Thermistors

## Packaging for Automatic Insertion



### PACKAGING AND KINK SUFFIXES

Tables below indicate the suffixes to specify when ordering to get the required kink and packaging. For devices on tape, it is necessary to specify the height (H or Ho) which is the distance between the tape axis (sprocket holes axis) and the seating plane on the printed circuit board. The following types can be ordered on tape either in AMMOPACK (fan folder) or on REEL in accordance with IEC 286-2.

#### – Straight leads:

**H** represents the distance between the sprocket holes axis and the bottom plane of component body (base of resin or base of stand off).

#### – Kinked leads and flat leads:

**Ho** represents the distance between the sprocket holes axis and the base on the knee (kinked leads) or the bottom of the flat part (flat leads).

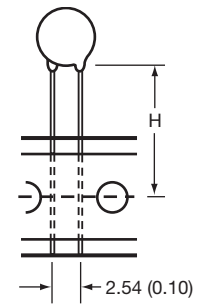
#### • Reel & Ammopack

millimeters (inches)

Types	Suffix	H or Ho	Leads	Quantity/Size	Packaging
ND/NE 03 & NJ28	CA	16 ± 0.5 (0.630 ± 0.020)	Straight	3000	AMMOPACK
	CB	16 ± 0.5 (0.630 ± 0.020)	Straight	3000	REEL
	CC	19.5 ± 0.5 (0.768 ± 0.020)	Straight	3000	AMMOPACK
	CD	19.5 ± 0.5 (0.768 ± 0.020)	Straight	3000	REEL
ND/NE/NV 06/09	DA	16 ± 0.5 (0.630 ± 0.020)	Straight	1500	AMMOPACK
	DB	16 ± 0.5 (0.630 ± 0.020)	Straight	1500	REEL
	DC	19.5 ± 0.5 (0.768 ± 0.020)	Straight	1500	AMMOPACK
	DD	19.5 ± 0.5 (0.768 ± 0.020)	Straight	1500	REEL
	DL	16 ± 0.5 (0.630 ± 0.020)	Kinked	1500	AMMOPACK
	DM	16 ± 0.5 (0.630 ± 0.020)	Kinked	1500	REEL
	DN	19.5 ± 0.5 (0.768 ± 0.020)	Kinked	1500	AMMOPACK
	DP	19.5 ± 0.5 (0.768 ± 0.020)	Kinked	1500	REEL

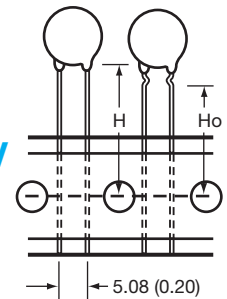
NTC

Type  
ND03  
NE03  
NJ28



NTC

Types  
ND/NE/NV  
06/09



#### • Bulk

Type	Quantity/box
ND/NE03	3000
ND/NE06	1500
ND/NE09	1500
NV06	100
NV09	100
NI24 NJ28 NK20	1000

### HOW TO ORDER

**ND06**

Type

**P0**

Material Code  
P

**0103**

Resistance  
10 kΩ

**K**

Tolerance  
K (±10%)

**--**

Packaging  
Bulk



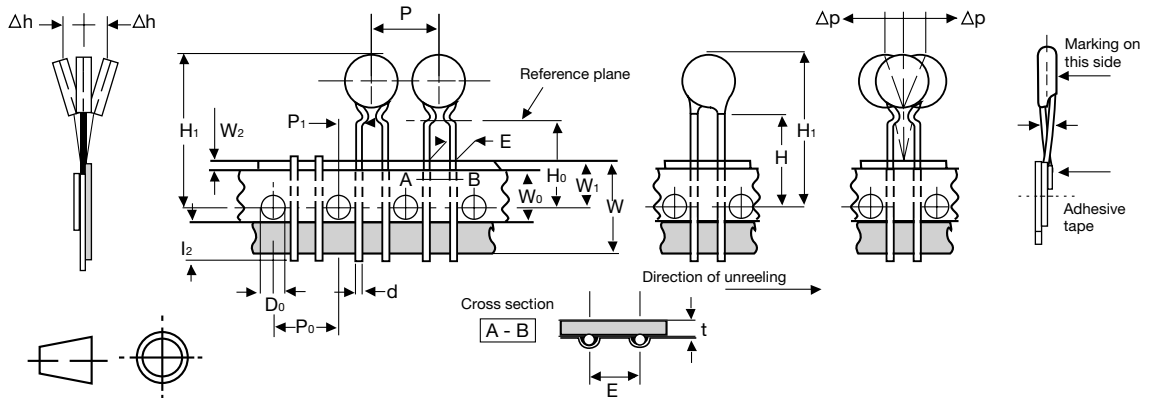
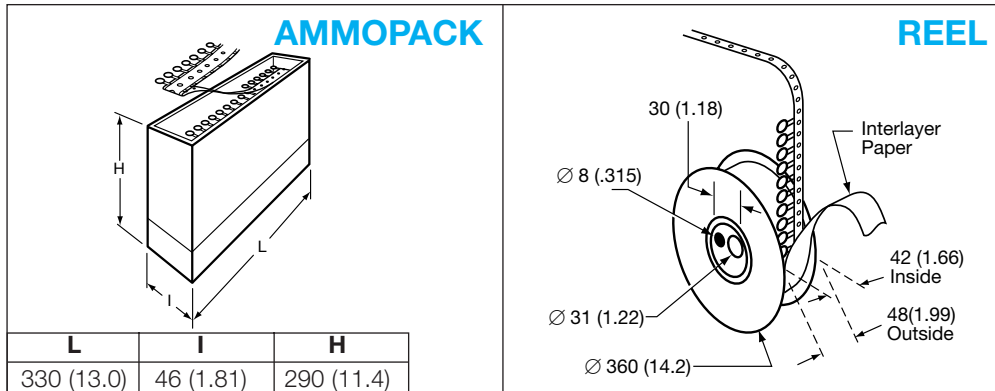
### TAPING CHARACTERISTICS

#### Missing components

A maximum of 3 consecutive components may be missing from the bandolier, surrounded by at least 6 filled positions. The number of missing components may not exceed 0.5% of the total per packing module.

The beginning and the end of tape exhibit 8 or 9 blank positions.

**DIMENSIONS:** millimeters (inches)



Value	Tolerance	Dimensions Characteristics	
18	+1 / -0.5	W	Leading tape width
6	±0.3	W <sub>0</sub>	Adhesive tape width
9	+0.75 / -0.5	W <sub>1</sub>	Sprocket hole position
3 max.		W <sub>2</sub>	Distance between the top of the tape and the adhesive
4	±0.2	D <sub>0</sub>	Diameter of sprocket hole
16/19.5	±0.5	H <sub>0</sub>	Distance between the tape axis and the seating plane of the component
		H <sub>1</sub>	Distance between the tape axis and the top of component body

Value	Tolerance	Dimensions Characteristics	
12.7	±0.2	P <sub>0</sub>	Sprocket holes pitch
254	±1	-	Distance between 21 consecutive holes 20 pitches
0.7	±0.2	t	Total thickness of tape
2.54	+0.6 / -0.1	E	Lead spacing
5.08	± 0.7	P <sub>1</sub>	Distance between the sprocket hole axis and the lead axis
12.7	±1.0	P	Spacing of components
0.5	±5%	d	Lead diameter
0	±1.3	°P	Verticality of components
0	±2	°h	Alignment of components