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# NTC Thermistors, SMD 0402, 0603, 0805, 1206 Chip

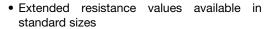






QUICK REFERENCE DATA					
PARAMETER	VALUE	UNIT			
Resistance value at 25 °C	1.0K to 350K	Ω			
Tolerance on R <sub>25</sub> -value	± 1, ± 2, ± 3, ± 5, ± 10	%			
B <sub>25/75</sub> -value	3181 to 4247	K			
B <sub>25/85</sub> -value	3185 to 4261	K			
Tolerance on B <sub>25/85</sub> - value, B <sub>25/75</sub> -value	± 3	%			
Operating temperature range at zero power (intermittent)	- 40 to + 125 (150)	°C			

#### **FEATURES**





- Wraparound Ni barrier terminations with 100 % Sn
- Allows design flexibility for use with hybrid circuitry
- High-density monolithic construction with glass overcoat
- Sn90Pb10 plated terminations version available
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition

### **APPLICATIONS**

Temperature sensing, protection and compensation in automotive, industrial, telecom and consumer applications. Examples are:

- · Battery chargers
- Power suppliers
- Office equipment
- LCD compensation
- In-car entertainment

### **DESIGN-IN SUPPORT**

For complete curve computation please visit the "My Vishay NTC curve" at : <a href="www.vishay.com/resistors-non-linear/ntc-curve-list/">www.vishay.com/resistors-non-linear/ntc-curve-list/</a> or sent your part number to <a href="mailto:thermistor1@vishay.com">thermistor1@vishay.com</a> to obtain a calculation spreadsheet.

NTHS PRODUCT DATA AND $R_{25}$ RESISTANCE RANGE AVAILABILITY								
CURVE	B <sub>25/75</sub> (K)	B <sub>25/85</sub> (K)	TCR (%/K)	NTHS0402 (kΩ)	NTHS0603 (kΩ)	NTHS0805 (kΩ)	NTHS1206 (kΩ)	R <sub>25</sub> ± TOL. AVAILABILITY
3	3181	3185	- 3.50	-	1 to 2	1 to 1.5	1 to 2	5, 10
2	3477	3486	- 3.84	10 to 12	6.8 to 12	4.7 to 10	6 to 10	3, 5, 10
11	3691	3715	- 4.00	30 to 34	22 to 32	15 to 30	20 to 33	3, 5, 10
1	3964	3974	- 4.39	68 to 100 <sup>(1)</sup>	50 to 100	33 to 78	38 to 100	1, 2, 3, 5, 10
17	4064	4073	- 4.50	250	150 to 220	100 to 200	100 to 220	3, 5, 10
4	4247	4262	- 4.67	350	250 to 350	200 to 300	200 to 330	3, 5, 10
Maximum dissipation at 25 °C in mW			80	125	210	280		
Dissipation factor in mW/K			2.0	3.0	3.5	4.0		
Thermal time constant in s			5	8	10	13		

#### Note

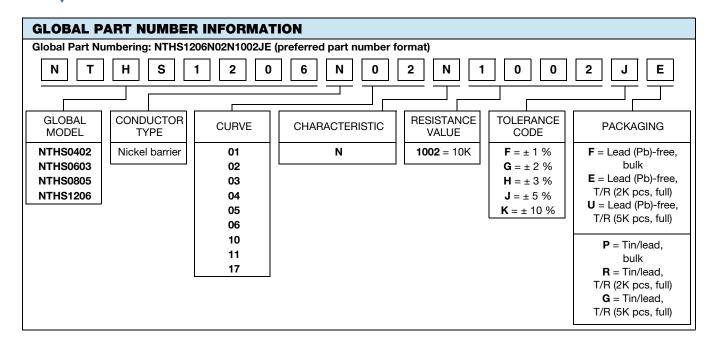
<sup>(1)</sup> Only  $R_{25}$  tolerance values  $\pm$  3 %,  $\pm$  5 %, and  $\pm$  10 % are available for NTHS0402N01N types

STANDARD RESISTANCE VALUES at 25 °C in $\Omega$						
1.0K	5.0K	12K	22K	47K	100K	220K
2.0K	6.8K	15K	30K	50K	150K	250K
4.7K	10K	20K	33K	68K	200K	330K

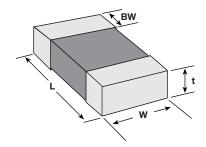
#### Note

• Most popular and available values

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## **DIMENSIONS** in inches (millimeters)



PART NUMBER	L	W	BW	t <sub>max.</sub>
NTHS0402	$0.040 \pm 0.004$ (1.02 ± 0.10)	$0.022 \pm 0.006$ (0.56 ± 0.15)	$0.010 \pm 0.004$ (0.25 ± 0.10)	0.028 (0.71)
NTHS0603	$0.063 \pm 0.008$	$0.031 \pm 0.008$	$0.010 \pm 0.006$	0.039
	(1.60 ± 0.20)	(0.80 ± 0.20)	(0.25 ± 0.15)	(1.00)
NTHS0805	$0.079 \pm 0.008$	$0.049 \pm 0.008$	$0.012 \pm 0.006$	0.057
	(2.01 ± 0.20)	(1.25 ± 0.20)	(0.30 ± 0.15)	(1.45)
NTHS1206	0.126 ± 0.008	$0.063 \pm 0.008$	$0.018 \pm 0.008$	0.071
	(3.20 ± 0.20)	(1.60 ± 0.20)	(0.46 ± 0.20)	(1.80)

### Note

• Thickness of the part is depending on the resistance value and curve



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# **Mouser Electronics**

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# Vishay:

NTHS0402N01N6802JE	NTHS0402N04N3503JE	NTHS0402N05N4702JE	NTHS0402N05N5002JE
NTHS0402N17N2503JE	NTHS0603N01N6802JE	NTHS0603N01N7002JE	NTHS0603N01N8002JE
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