## **NTHS Series**



Vishay Dale

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



#### **DESIGN SUPPORT TOOLS AVAILABLE**



QUICK REFERENCE DATA						
PARAMETER	VALUE	UNIT				
Resistance value at 25 °C	4.7K to 350K	Ω				
Tolerance on $R_{25}$ -value	$\pm$ 1, $\pm$ 2, $\pm$ 3, $\pm$ 5, $\pm$ 10	%				
B <sub>25/75</sub> -value	3477 to 4064	К				
B <sub>25/85</sub> -value	3486 to 4073	K				
Tolerance on $B_{25/85}$ -value, $B_{25/75}$ -value	± 3	%				
Operating temperature range at zero power (intermittent)	-40 to +125 (150)	°C				

### **FEATURES**

 Extended resistance values available in standard sizes RoHS



COMPLIANT HALOGEN

FREE

- Wraparound Ni barrier terminations with 100 % Sn
- NTHS1206 curve 1 is AEC-Q200 qualified
- · High-density monolithic construction with glass overcoat
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

#### **APPLICATIONS**

Temperature sensing, protection and compensation in 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: www.vishay.com/thermistors/ntc-curve-list/ or send your part number to thermistor1@vishay.com to obtain a calculation spreadsheet.

NTHS PRODUCT DATA AND R <sub>25</sub> 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 <sup>(2)</sup> (kΩ)	R <sub>25</sub> ± TOL. AVAILABILITY
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	-4.13	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 <sup>(2)</sup>	1, 2, 3, 5, 10
5	3964	3974	-4.39	47 to 50	40 to 50	25 to 47	30 to 44	3, 5, 10
17	4064	4073	-4.50	250	150 to 220	100 to 200	100 to 220	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 ti	Thermal time constant in s				8	10	13	

Notes

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

(2) NTHS1206 curve 1 parts are AEC-Q200 qualified

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

#### Note

Most popular and available values •

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For technical questions, contact: thermistor1@vishay.com

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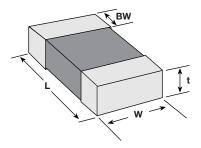
### **NTHS Series**



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GLOBAL P	GLOBAL PART NUMBER INFORMATION					
Global Part Nu	umbering: NTHS12	06N02N1002JE	(preferred part number f	ormat)		
ΝΤ	N T H S 1 2 0 6 N 0 2 N 1 0 0 2 J E					
GLOBAL MODEL	CONDUCTOR TYPE	CURVE	CHARACTERISTIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING
NTHS0402 NTHS0603	Nickel barrier	01 02	Ν	<b>1002</b> = 10K	$F = \pm 1 \%$ $G = \pm 2 \%$	<b>F</b> = lead (Pb)-free, bulk
NTHS0805		05			$G = \pm 2\%$ $H = \pm 3\%$	E = lead (Pb)-free,
NTHS1206		11 17			<b>J</b> = ± 5 % <b>K</b> = ± 10 %	T/R (2K pieces, full) <b>U</b> = lead (Pb)-free,
					<b>K</b> = ± 10 %	T/R (5K pieces, full)

**DIMENSIONS** in inches (millimeters)



PART NUMBER	L	W	BW	t <sub>max.</sub>
NTHS0402	0.040 ± 0.004	0.022 ± 0.006	0.010 ± 0.004	0.028
	(1.02 ± 0.10)	(0.56 ± 0.15)	(0.25 ± 0.10)	(0.71)
NTHS0603	0.063 ± 0.008	0.031 ± 0.008	0.010 ± 0.006	0.039
	(1.60 ± 0.20)	(0.80 ± 0.20)	(0.25 ± 0.15)	(1.00)
NTHS0805	0.079 ± 0.008	0.049 ± 0.008	0.012 ± 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 ± 0.008	0.018 ± 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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