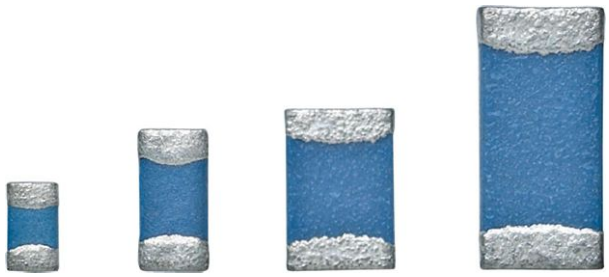
NTC Thermistors, SMD 0402, 0603, 0805, 1206 Chip



FEATURES

- Extended resistance values available in standard sizes
- Wraparound Ni barrier terminations with 100 % Sn
- High-density monolithic construction with glass overcoat
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb e3 RoHS COMPLIANT HALOGEN FREE

LINKS TO ADDITIONAL RESOURCES

Design Tools 3D Models

QUICK REFERENCE DATA

PARAMETER	VALUE	UNIT
Resistance value at 25 °C	4.7K to 350K	Ω
Tolerance on R_{25}-value	± 1, ± 2, ± 3, ± 5, ± 10	%
$B_{25/75}$-value	3477 to 4064	K
$B_{25/85}$-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

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: www.vishay.com/thermistors/ntc-rt-calculator or send your part number to thermistor1@vishay.com to obtain a calculation spreadsheet.

CAUTIONS AND WARNINGS ON MOUNTING AND HANDLING

Please read the special instructions: see www.vishay.com/doc?29224.

NTHS PRODUCT DATA AND R_{25} RESISTANCE RANGE AVAILABILITY

CURVE	$B_{25/75}$ (K)	$B_{25/85}$ (K)	TCR (%/K)	NTHS0402 (kΩ)	NTHS0603 (kΩ)	NTHS0805 (kΩ)	NTHS1206 [2] (kΩ)	R_{25} ± 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 [1]	50 to 100	33 to 78	38 to 100 [2]	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 time constant in s				5	8	10	13	

Notes

(1) 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 Ω

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

For technical questions, contact: thermistor1@vishay.com
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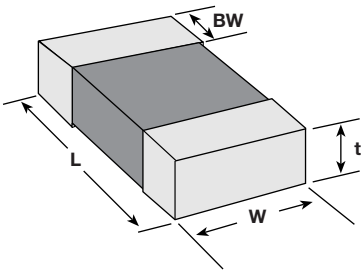
GLOBAL PART NUMBER INFORMATION

Global Part Numbering: NTHS1206N02N1002JE (preferred part number format)

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** **NTHS0805** **NTHS1206**	Nickel barrier	**01** **02** **05** **11** **17**	**N**	**1002** = 10K	**F** = ± 1 % **G** = ± 2 % **H** = ± 3 % **J** = ± 5 % **K** = ± 10 %	**E** = lead (Pb)-free, T/R (2K pieces, full) **U** = lead (Pb)-free, T/R (5K pieces, full)

DIMENSIONS in inches (millimeters)



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

Note

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

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