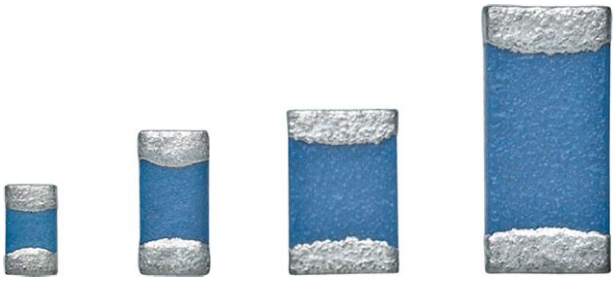
NTC Thermistors, SMD 0402, 0603, 0805, 1206 Chip



FEATURES

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

e3
RoHS COMPLIANT
HALOGEN FREE

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/curve-computation-list/ or send your part number to thermistor1@vishay.com to obtain a calculation spreadsheet.

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

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 (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	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	

Note

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

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

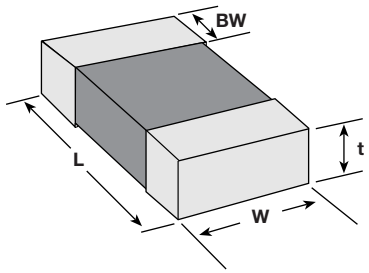
GLOBAL PART NUMBER INFORMATION

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 %	**F** = lead (Pb)-free, bulk **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

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Vishay:

NTHS0805N02N4601JP NTHS0805J14N5000JP NTHS0805J08N5003JP NTHS0805N02N6001KP NTHS0805N02N1002KP NTHS0805N02N1002JP NTHS0805N01N1002JP NTHS0805N17N1003JP NTHS0805N17N1003KP NTHS1206N04N2503JR NTHS1206N01N2002JP NTHS1206N03N2000JP NTHS1206N03N2000KP NTHS1206N02N2201JR NTHS1206N17N2203JP NTHS0603N02N4701JP NTHS0603N03N2001JP NTHS0603N02N1002JR NTHS1206N03N6800JR NTHS0603N01N1003JP NTHS0603N17N2003JP NTHS1012J14N3000JP NTHS1012J14N3000KP NTHS0603N02 5K 5%TR NTHS0603N03N1001JE NTHS0805J08N5003JR NTHS0805N11N1502JE NTHS1006N02N5001JE NTHS1205N01 100K 5%T NTHS1206J02 4.7K 5% NTHS1206J14 300 10% NTHS1206J14 330 10% NTHS1206N01 100K 5%T NTHS1206N01 50K 5% NTHS1206N02 4.7K 10% NTHS1206N02 5K 10%TR NTHS1206N02N1002JE NTHS1206N02N4701KE NTHS1206N03 220 5%TR NTHS1206N17 220K 5% NTHS0805N01N2202JR NTHS0805J02N1002JP NTHS0805J02N1002KP NTHS0603J04N2203JP NTHS0805N03N1001JR NTHS1206N02N2001JP NTHS1206J02N1002JP NTHS1206J14N1001JP NTHS1006N02N7001JP NTHS0805N17N1503JR NTHS1006N02N6001KP NTHS0603N02N2332JP NTHS0603N01N2332JP NTHS0603J02N1002JP NTHS1206N03N3300JR NTHS1206N01N1003JP NTHS1206N02N1002KP NTHS1206N02N1002JP NTHS1206N01N1002JP NTHS1012N02N2001KP NTHS1206N03N1001JP NTHS1206N01N1003KP NTHS1005N02N9201JP NTHS1012N01N3002JP NTHS1006N02N5001JP NTHS1006N02N5001KP NTHS1206N02N6001JP NTHS1006J14N3000KP NTHS0805N02N4701JP NTHS1206J02N0050JP NTHS0603N01N1683JE NTHS1206N02N5001JE NTHS1006N02N5001KE NTHS1206N03N1001JE NTHS0805J02N1002KE NTHS0805J02N1002JE NTHS0805N01N1123JE NTHS1206N01N4702JE NTHS1012N01N3002JE NTHS0805N02N1002KE NTHS0805N01N1002JE NTHS0805N02N1002JE NTHS0805N02N5001JE NTHS1206N02N1501JE NTHS0805J08N5003JE NTHS1206N01N5002JE NTHS1206N01N5002KE NTHS1206N01N1003JE NTHS1206N01N1003KE NTHS1006N02N7001JE NTHS0603N01N1003JE NTHS0805N02N4701JE NTHS1012N01N1002KE NTHS1205N01N1003JE NTHS1206N02N7001KE NTHS1206N02N7001JE NTHS0603J02N1002JE NTHS0603N02N1002JE NTHS1012N04N1003JE NTHS0805N01N1503JE