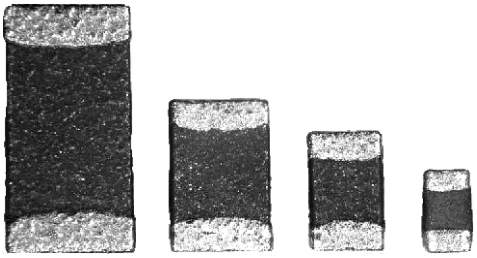
NTC Thermistors, SMD Chip



FEATURES

- Extended resistance values available in standard sizes
- Wraparound Ni barrier terminations with 100 % Sn (or Sn90Pb10)
- Allows design flexibility for use with hybrid circuitry
- Available in bulk or tape and reel packaging
- High-density monolithic construction with glass overcoat
- Compliant to RoHS directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition

e3
RoHS COMPLIANT
HALOGEN FREE

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

QUICK REFERENCE DATA	
PARAMETER	**VALUE**
Resistance value at 25 °C	1.0 kΩ to 350 kΩ
Tolerance on R_{25} - value	± 1 %, ± 2 %, ± 3 %, ± 5 %, ± 10 %
$B_{25/75}$ value	3181K to 4247K
Tolerance on $B_{25/85}$ - value	± 3 %
Operating temperature range at zero power (intermittent)	- 40 °C to + 125 °C (150 °C)

NTHS PRODUCT DATA AND R_{25} RESISTANCE RANGE AVAILABILITY

CURVE	$B_{25/75}$ (K)	TCR (%/K)	NTHS0402 (kΩ)	NTHS0603 (kΩ)	NTHS0805 (kΩ)	NTHS1206 (kΩ)	R_{25} ± TOL. AVAILABILITY
3	3181	- 3.70	-	1 to 2	1 to 1.5	1 to 2	5, 10
6	3254	- 3.60	-	2.5 to 4.7	2 to 3.3	2.7 to 3.5	5, 10
2	3477	- 3.83	10 to 12	6.8 to 12	4.7 to 10	6 to 10	3, 5, 10
10	3500	- 3.90	18 to 25	12 to 20	6 to 12	10 to 20	3, 5, 10
11	3700	- 4.00	30 to 34	22 to 32	15 to 30	20 to 33	3, 5, 10
5	3890	- 4.30	47 to 50	38 to 57	35 to 50	30 to 44	3, 5, 10
1	3964	- 4.40	68 to 100	50 to 100	33 to 78	38 to 100	1, 2, 3, 5, 10
17	4064	- 4.54	250	150 to 220	100 to 200	100 to 220	3, 5, 10
4	4247	- 4.68	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	

Note

- Typical resistance vs. temperature conversion data can be found at www.vishay.com/doc?33011

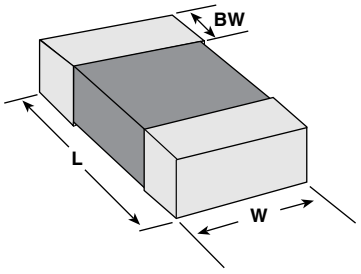
GLOBAL PART NUMBER INFORMATION

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** **03** **04** **05** **06** **10** **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, full) **U** = Lead (Pb)-free, T/R (5K, full) **P** = Tin/lead, bulk **R** = Tin/lead, T/R (2K, full) **G** = Tin/lead, T/R (5K, full)

DIMENSIONS in inches (millimeters)



PART NUMBER	L	W	BW
NTHS0402	0.040 ± 0.004 (1.016 ± 0.102)	0.022 ± 0.006 (0.5 ± 0.051)	0.010 ± 0.004 (0.25 ± 0.102)
NTHS0603	0.063 ± 0.008 (1.6 ± 0.20)	0.031 ± 0.008 (0.80 ± 0.20)	0.010 ± 0.006 (0.25 ± 0.15)
NTHS0805	0.079 ± 0.008 (2.00 ± 0.20)	0.049 ± 0.008 (1.25 ± 0.20)	0.012 ± 0.006 (0.30 ± 0.15)
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)

Note

- Thickness of the part is depending on size and resistance value. Please consult the factory for more information on individual types at thermistor1@vishay.com

Disclaimer

All product specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.