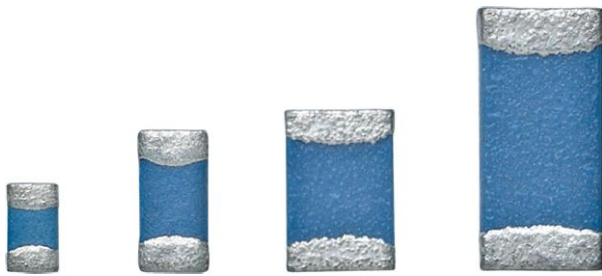


NTC Thermistors, SMD 0402, 0603, 0805, 1206 Chip



FEATURES

- Extended resistance values available in standard sizes
- 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



RoHS
COMPLIANT
HALOGEN
FREE

ADDITIONAL RESOURCES



Design Tools

| 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 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_{25} RESISTANCE RANGE AVAILABILITY | | | | | | | | |
|--|-----------------|-----------------|-----------|--------------------------|---------------|---------------|------------------------------|--------------------------------|
| CURVE | $B_{25/75}$ (K) | $B_{25/85}$ (K) | TCR (%/K) | NTHS0402 (kΩ) | NTHS0603 (kΩ) | NTHS0805 (kΩ) | NTHS1206 ⁽²⁾ (kΩ) | $R_{25} \pm$ 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

| 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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