

SMD 0805, Glass Protected NTC Thermistors



LINKS TO ADDITIONAL RESOURCES



| QUICK REFERENCE DATA | | |
|--|--------------------|------|
| PARAMETER | VALUE | UNIT |
| Resistance value at 25 °C | 1K to 680K | Ω |
| Tolerance on R_{25} -value | ± 1; ± 2; ± 3; ± 5 | % |
| $B_{25/85}$ -value | 3370 to 4125 | K |
| Tolerance on $B_{25/85}$ -value | ± 1; ± 3 | % |
| Maximum power dissipation at 25 °C P_{max25} | 210 | mW |
| Thermal time constant τ | ≈ 10 | s |
| Dissipation factor D | 3.5 | mW/K |
| Operating temperature range at zero power ⁽¹⁾ | -55 to +150 | °C |
| Storage temperature range | -55 to +150 | °C |
| Weight | ≈ 0.008 | g |

Note

⁽¹⁾ Zero power is considered as measuring power maximum 1 % of P_{max25}

AGENCY APPROVALS

Agency approval documents, please see:
www.vishay.com/ppg?29044&documents

DESIGN-IN SUPPORT

For complete curve computation, please visit:
www.vishay.com/thermistors/ntc-rt-calculator/

FEATURES

- TCR ranging from -6 %/K at -40 °C to -2 %/K at 150 °C
- Tolerance on R_{25} down to 1 %, and on $B_{25/85}$ down to 1 %
- Suitable for wave or reflow soldering
- NiSn terminations
- Fully glass coated and protected
- cULus recognized, file E148885 (UL category XGPU2 / XGPU8)
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE


RoHS
 COMPLIANT
 HALOGEN
FREE

APPLICATIONS

- Temperature sensing, protection and compensation in automotive, industrial, telecom and consumer applications. Examples are:
 - Battery chargers
 - Power supplies
 - Office equipment
 - LCD compensation
 - In-car entertainment

DESCRIPTION

Size 0805 (M2012) glass protected SMD chip thermistor with negative temperature coefficient (TCR) and matte tin (Sn) plated terminations. The device has no marking.

PACKAGING

Available in 8 mm punched paper tape on reel package of 4000 units.

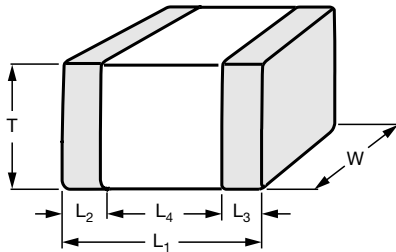
CAUTIONS AND WARNINGS ON MOUNTING AND HANDLING

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

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | | |
|--|-------------------------|--------------------|----------------------------|---------------|---|
| R_{25} (Ω) | R_{25} -TOL. (± %) | $B_{25/85}$ (K) | $B_{25/85}$ -TOL. (± %) | UL RECOG. | SAP MATERIAL AND ORDERING NUMBER ⁽¹⁾ |
| 1000 | 3, 5 | 3370 | 1 | | NTCS0805E3102*LT |
| 1500 | 3, 5 | 3420 | 1 | | NTCS0805E3152*LT |
| 2200 | 1, 2, 3, 5 | 3600 | 1 | ✓ | NTCS0805E3222*MT |
| 4700 | 1, 2, 3, 5 | 3500 | 1 | | NTCS0805E3472*MT |
| 5000 | 1, 2, 3, 5 | 3480 | 1 | | NTCS0805E3502*LT |
| 10 000 | 1, 2, 3, 5 | 3430 | 3 | ✓ | NTCS0805E3103*LT |
| 10 000 | 1, 2, 3, 5 | 3570 | 3 | ✓ | NTCS0805E3103*MT |
| 10 000 | 1, 2, 3, 5 | 3940 | 1 | ✓ | NTCS0805E3103*HT |
| 15 000 | 1, 2, 3, 5 | 3700 | 1 | ✓ | NTCS0805E3153*MT |
| 22 000 | 1, 2, 3, 5 | 3800 | 1 | ✓ | NTCS0805E3223*HT |
| 33 000 | 1, 2, 3, 5 | 3920 | 1 | ✓ | NTCS0805E3333*HT |
| 47 000 | 1, 2, 3, 5 | 3960 | 1 | ✓ | NTCS0805E3473*HT |
| 68 000 | 1, 2, 3, 5 | 4100 | 1 | ✓ | NTCS0805E3683*XT |
| 100 000 | 1, 2, 3, 5 | 3590 | 1 | ✓ | NTCS0805E3104*MT |
| 100 000 | 1, 2, 3, 5 | 4100 | 1 | ✓ | NTCS0805E3104*XT |
| 330 000 | 1, 2, 3, 5 | 3930 | 1 | ✓ | NTCS0805E3334*HT |
| 470 000 | 1, 2, 3, 5 | 4025 | 1 | ✓ | NTCS0805E3474*XT |
| 680 000 | 1, 2, 3, 5 | 4125 | 1 | ✓ | NTCS0805E3684*XT |

Note

⁽¹⁾ Replace * in SAP material number by J for ± 5 %, H for ± 3 %, G for ± 2 %, F for ± 1 % tolerance on R_{25}

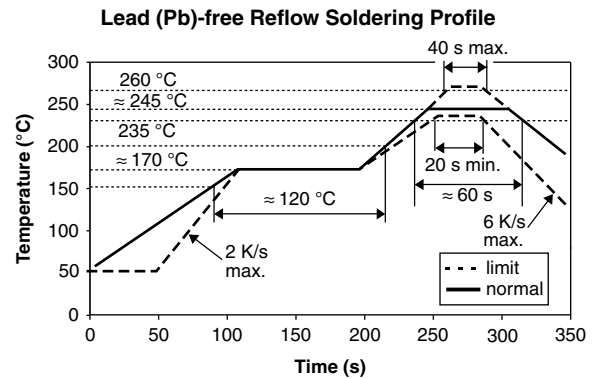
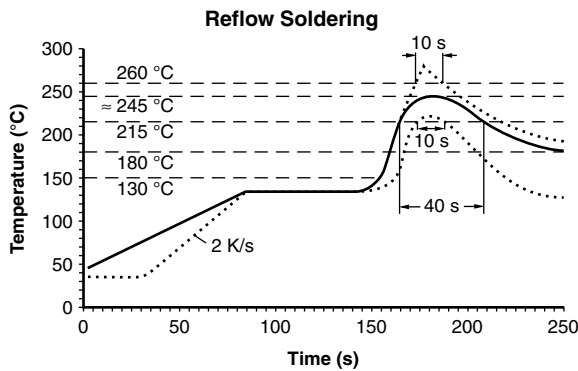
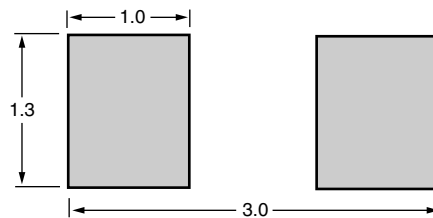
DIMENSIONS


| L ₁ | W | T | L ₂ AND L ₃ MIN. | L ₄ MIN. |
|----------------|-------------|------------|--|---------------------|
| 2.0 ± 0.2 | 1.25 ± 0.15 | 0.8 ± 0.15 | 0.2 | 0.55 |

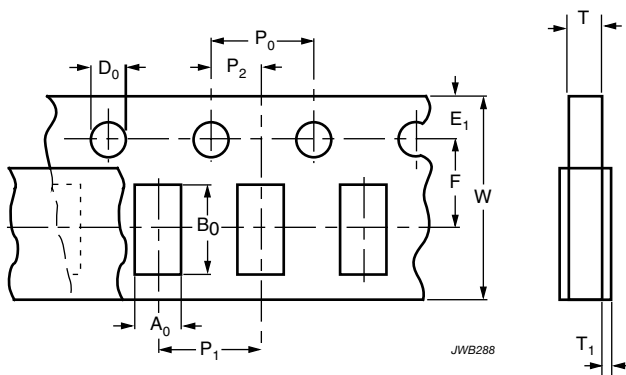
SOLDERING CONDITIONS

 Soldering, handling, and mounting conditions are detailed in the instructions document: see www.vishay.com/doc?29224.

Typical examples of a soldering processes that will provide reliable joints without damage, are shown below.


Dimensions of the solder lands

PACKAGING
TAPE SPECIFICATIONS

All tape specifications are in accordance with IEC 60286-3. Basic dimensions are given below. Carrier tape material is paper.

PAPER TAPE

DIMENSIONS OF PAPER TAPE in millimeters

| PARAMETER | DIMENSION |
|--|-------------|
| A ₀ ⁽¹⁾ | 1.7 ± 0.2 |
| B ₀ ⁽¹⁾ | 2.35 ± 0.1 |
| W | 8.0 ± 0.2 |
| E ₁ | 1.75 ± 0.1 |
| F | 3.5 ± 0.05 |
| D ₀ | 1.55 ± 0.05 |
| P ₀ ⁽²⁾ | 4.0 ± 0.1 |
| P ₁ | 4.0 ± 0.1 |
| P ₂ | 2.0 ± 0.05 |
| T tape thickness max. | 1.1 |
| T ₁ cover tape thickness max. | 0.1 |

Notes

- (1) Measured 0.3 mm above base pocket
- (2) P₀ pitch cumulative error over any 10 pitches ± 1.0 mm



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