



NTC Thermistors, Standard Lug Sensors



LINKS TO ADDITIONAL RESOURCES



| QUICK REFERENCE DATA | | |
|--|--------------|-----------------|
| PARAMETER | VALUE | UNIT |
| Resistance value at 25 °C | 10K | Ω |
| Tolerance on R_{25} -value | ± 2 to ± 3 | % |
| $B_{25/85}$ -value | 3435; 3984 | K |
| Tolerance on $B_{25/85}$ -value | ± 0.5 to ± 1 | % |
| Operating temperature range (without connector) | -55 to +150 | °C |
| Storage temperature range | -55 to +150 | °C |
| Response time (for info) ⁽¹⁾ | 4 | s |
| Thermal time constant τ_c ⁽²⁾ | 5 | s |
| Dissipation factor δ ⁽²⁾ | 13 | mW/K |
| Max. power dissipation at 55 °C ⁽³⁾ | 400 | mW |
| Minimum dielectric withstanding voltage between terminals and lug | 1500 | V _{AC} |
| Minimum insulation resistance between terminals and lug at 500 V _{DC} | 100 | MΩ |
| Weight | 1.6 to 4.3 | g |

Notes

- (1) The response time is the time the sensor responds to a 63.2 % step change in temperature, usually set to $\Delta T = 60$ °C (25 to 85) unless mentioned differently. This step is generally conducted by quickly transferring the NTC from one liquid to another (generally water or oil)
- (2) Measured with screw mounted on an aluminum heatsink of 100 cm², thickness 1.5 mm, in still air at $T_{amb} = +25$ °C
- (3) In still air on an aluminum plate

AGENCY APPROVALS

- cUL certificate XGPU8.E148885
- ULus certificate XGPU2.E148885

Note

- Agency approval documents, please see: www.vishay.com/ppg?29193&documents

FEATURES

- Easy mounting using ring tongue terminal
- Rugged construction
- Cable of PTFE insulation according to NEMA HP-3, type E, rated 600 V_{RMS} ⁽¹⁾
- AEC-Q200 qualified (grade 1)
- cULus recognized, file E148885 (UL category XGPU2/XGPU8)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT

Note

- (1) Formerly MIL-W-16878/4, type E, cable test voltage 3.4 kV

APPLICATIONS

Suitable for surface sensing applications, especially when a good electrical insulation and a good thermal contact with the chassis is required.

DESCRIPTION

A NTC thermistor chip is soldered to AWG#24 stranded silver plated copper leads with PTFE insulation and insulated with epoxy coating. The insulated sensor is attached to a tin plated copper ring lug. The lead wires are stripped.

PACKAGING

The thermistors are packed in cardboard boxes.

CAUTIONS AND WARNINGS ON MOUNTING AND HANDLING

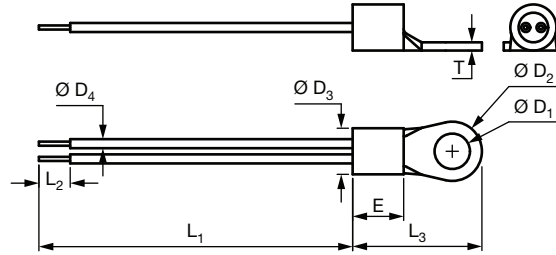
Please read the special instructions: see www.vishay.com/doc?29221

- By means of M4 (stud #8) screw. Leads to be soldered or crimped
- The device is suitable for screwing e.g. on metal surface
- The leads are suitable for soldering e.g. on PCB

DESIGN-IN SUPPORT

- Other resistance curves and tolerances are available on request
- Consult Vishay for other lead length, other connector crimping, or other features <https://info.vishay.com/vishay-ntc-modification-request>
- 3D solid models: www.vishay.com/doc?29198
- NTC curve computation: www.vishay.com/thermistors/ntc-rt-calculator/

DIMENSIONS in millimeters



| L_1 | L_2 | $\text{Ø } D_1$ | $\text{Ø } D_2$ | $\text{Ø } D_3$ | T | L_3 | E | D_4 |
|-----------------------------|-------------|-------------------|-----------------|---------------------|-----|-----------------|---------------|----------------|
| Refer to the ordering table | 3.8 ± 1 | $4.3 + 0.2 / - 0$ | 7.2 ± 0.2 | $5.6 + 0.3 / - 0.2$ | 1.0 | 15.70 ± 0.3 | 6.2 ± 0.2 | 1.12 ± 0.1 |

ELECTRICAL DATA AND ORDERING INFORMATION

| R_{25} (Ω) | R_{25} - TOL. (\pm %) | $B_{25/85}$ (K) | $B_{25/85}$ -TOL. (\pm %) | L_1 (mm) | DESCRIPTION | UL RECOG. US | SAP MATERIAL AND ORDERING NUMBER | |
|--------------------------|----------------------------------|--------------------|---------------------------------|------------------|---|--------------------|---|--------------------|
| | | | | | | | RoHS-COMPLIANT WITH EXEMPTION ⁽¹⁾ | RoHS-COMPLIANT |
| 10 000 | 2 | 3984 | 0.5 | 38.1 ± 3.8 | NTC Lug91 M4 10K 2 % 3984 K PTFE AWG#24 38 mm | ✓ | NTCALUG91A103G | NTCALUG91A103GA |
| 10 000 | 2 | 3435 | 1 | 38.1 ± 3.8 | NTC Lug91 M4 10K 2 % 3435 K PTFE AWG#24 38 mm | ✓ | NTCALUG91A103GL | NTCALUG91A103GLA |
| 10 000 | 2 | 3984 | 0.5 | $300 + 10 / - 5$ | NTC Lug91 M4 10K 2 % 3984 K PTFE AWG#24 300 mm | ✓ | NTCALUG91A103G301 | NTCALUG91A103G301A |
| 10 000 | 3 | 3984 | 0.5 | $150 + 10 / - 5$ | NTC Lug91 M4 10K 3 % 3984 K PTFE AWG#24 150 mm | ✓ | NTCALUG91A103H151 | NTCALUG91A103H151A |

Notes

Preferred versions for new designs

⁽¹⁾ RoHS exemption 7(c)-I: electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezo-electronic devices, or in a glass or ceramic matrix compound



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