

## NTC Thermistors, Standard Lug Sensors, 150 °C



### LINKS TO ADDITIONAL RESOURCES



3D Models



Design Tools

**SPICE**

Models



Related Documents

| QUICK REFERENCE DATA  |              |                 |
|---|--------------|-----------------|
| PARAMETER   | VALUE        | UNIT            |
| Resistance value at 25 °C <sup>(1)</sup>                                    | 10K          | Ω               |
| Tolerance on $R_{25}$ -value <sup>(1)</sup>                                 | ± 1 to ± 2   | %               |
| $B_{25/85}$ -value <sup>(1)</sup>   | 3435, 3984   | K               |
| Tolerance on $B_{25/85}$ -value   | ± 0.5 to ± 1 | %               |
| Operating temperature range at zero dissipation                             | -40 to +150  | °C              |
| Min. dielectric withstanding voltage between terminals and lug              | 2700         | V <sub>AC</sub> |
| Min. insulation resistance between terminals and lug at 500 V <sub>DC</sub> | 100          | MΩ              |
| Weight  | 2.0 to 3.2   | g               |

#### Note

<sup>(1)</sup> Other  $R_{25}$ -values,  $B_{25/85}$ -values, and tolerances are available upon request

### AGENCY APPROVALS

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

#### Note

• Agency approval documents, please see: [www.vishay.com/ppg?29164&documents](http://www.vishay.com/ppg?29164&documents)

### 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?29179](http://www.vishay.com/doc?29179)
- NTC curve computation:  
[www.vishay.com/thermistors/ntc-rt-calculator/](http://www.vishay.com/thermistors/ntc-rt-calculator/)

### FEATURES

- 150 °C long term stability (5000 h dry heat)
- Easy mounting using ring tongue terminal
- Rugged construction
- Cable with ETFE insulation according to NEMA HP-3, type Z, rated 600 V<sub>RMS</sub>, cable test voltage 3.4 kV
- 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](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### APPLICATIONS

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

- Automotive equipment
- EV and battery management
- Power electronics, heat sink
- Consumer appliances

### DESCRIPTION

A NTC thermistor chip is soldered to AWG#26 multi-stranded silver plated copper leads with ETFE insulation and insulated with epoxy coating. The insulated sensor is attached to a tin plated copper ring lug via a middle buffer layer. The lead wires are twisted.

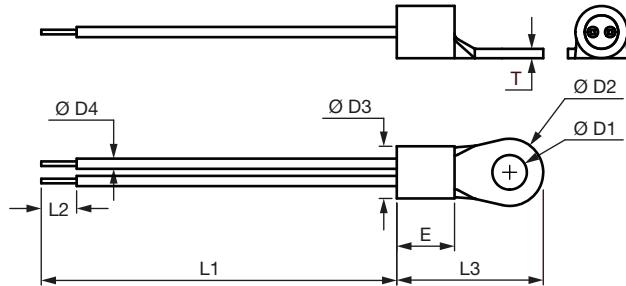
### PACKAGING

The thermistors are packed in cardboard boxes; the smallest packaging quantity is 200 units.

### CAUTIONS AND WARNINGS ON MOUNTING AND HANDLING

Please read the special instructions: see [www.vishay.com/doc?29221](http://www.vishay.com/doc?29221).

- By means of M3 (stud #3, #4) or M3,5 (stud #5, #6) 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

**DIMENSIONS** in millimeters


| L <sub>1</sub>              | L <sub>2</sub> | Ø D <sub>1</sub> | Ø D <sub>2</sub> | Ø D <sub>3</sub> | T   | L <sub>3</sub> | E         | D <sub>4</sub> |
|-----------------------------|----------------|------------------|------------------|------------------|-----|----------------|-----------|----------------|
| Refer to the ordering table | 3.8 ± 1        | 3.7 +0.2 / -0    | 7.2 ± 0.2        | 5.6 +0.3 / -0.2  | 1.0 | 15.70 ± 0.3    | 6.2 ± 0.2 | 0.93 ± 0.1     |

**ELECTRICAL DATA AND ORDERING INFORMATION**

| R <sub>25</sub><br>(Ω) | R <sub>25</sub> <sup>-</sup><br>TOL.<br>(± %) | B <sub>25/85</sub><br>(K) | B <sub>25/85</sub> <sup>-</sup><br>TOL.<br>(± %) | L <sub>1</sub><br>(mm) | DESCRIPTION   | UL<br>RECOG.<br>US | SAP MATERIAL AND ORDERING NUMBER     |                        |
|------------------------|---|---------------------------|--|------------------------|---|--------------------|--------------------------------------|------------------------|
|                        |   |                           |  |                        |   |                    | RoHS-COMPLIANT<br>WITH EXEMPTION (1) | RoHS-COMPLIANT (2)     |
| 10 000                 | 1   | 3984                      | 0.5  | 150 ± 10               | NTC Lug01T 10K 1 % 3984 K<br>150 °C ETFE AWG26 150 mm | ✓                  | NTCALUG01T103F                       | NTCALUG01T103FA        |
| 10 000                 | 1   | 3435                      | 1.0  | 150 ± 10               | NTC Lug01T 10K 1 % 3435 K<br>150 °C ETFE AWG26 150 mm | ✓                  | NTCALUG01T103FL                      | NTCALUG01T103FLA       |
| 10 000                 | 2   | 3984                      | 0.5  | 40 ± 5                 | NTC Lug01T 10K 2 % 3984 K<br>150 °C ETFE AWG26 40 mm  | ✓                  | NTCALUG01T103G400                    | NTCALUG01T103G400A     |
| 10 000                 | 2   | 3984                      | 0.5  | 150 ± 10               | NTC Lug01T 10K 2 % 3984 K<br>150 °C ETFE AWG26 150 mm | ✓                  | <b>NTCALUG01T103G</b>                | <b>NTCALUG01T103GA</b> |
| 10 000                 | 2   | 3984                      | 0.5  | 200 ± 10               | NTC Lug01T 10K 2 % 3984 K<br>150 °C ETFE AWG26 200 mm | ✓                  | NTCALUG01T103G201                    | NTCALUG01T103G201A     |
| 10 000                 | 2   | 3984                      | 0.5  | 500 ± 10               | NTC Lug01T 10K 2 % 3984 K<br>150 °C ETFE AWG26 500 mm | ✓                  | NTCALUG01T103G501                    | NTCALUG01T103G501A     |

**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.  
 (e2) The end conductor is dipped in tin-silver alloy solder
- (2) RoHS I, RoHS II, RoHS III, without exemption, and lead (Pb)-free.  
 (e4) The end conductor is multistranded silver plated copper



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