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# Vishay BCcomponents

# NTC Thermistors, Standard Lug Sensors, 150 °C





## **LINKS TO ADDITIONAL RESOURCES**









QUICK REFERENCE DATA								
PARAMETER	VALUE	UNIT						
Resistance value at 25 °C	10K	Ω						
Tolerance on R <sub>25</sub> -value	± 1 to ± 2	%						
B <sub>25/85</sub> -value	3435; 3984	K						
Tolerance on B <sub>25/85</sub> -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 $\tau_{c}^{(2)}$	4	S						
Dissipation factor $\delta$ <sup>(2)</sup>	11	mW/K						
Max. power dissipation at 55 °C (3)	400	mW						
Minimum dielectric withstanding voltage between terminals and lug	2700	V <sub>AC</sub>						
Minimum insulation resistance between terminals and lug at 500 V <sub>DC</sub>	100	МΩ						
Weight	2.0 to 3.2	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 cm<sup>2</sup>, thickness 1.5 mm, in still air at T<sub>amb</sub> = +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.vishav.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
- NTC curve computation:

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



COMPLIANT

- AEC-Q200 qualified (grade 1)
- cULus recognized, file E148885 (UL category XGPU2/XGPU8)
- Material categorization: for definitions of compliance please see <a href="https://www.vishay.com/doc?99912"><u>www.vishay.com/doc?99912</u></a>

#### **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

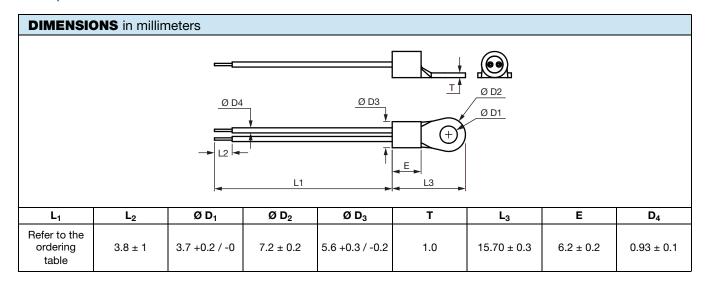
Please read the special instructions: see <a href="https://www.vishay.com/doc?29221">www.vishay.com/doc?29221</a>.

- 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



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