



**THE DATASHEET OF  
NTCALUG01T103G501**



# 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 $R_{25}$ -value	± 1 to ± 2	%
$B_{25/85}$ -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) <sup>(1)</sup>	4	s
Thermal time constant $\tau_c$ <sup>(2)</sup>	4	s
Dissipation factor $\delta$ <sup>(2)</sup>	11	mW/K
Max. power dissipation at 55 °C <sup>(3)</sup>	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	MΩ
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  $T_{amb} = +25$  °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?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.

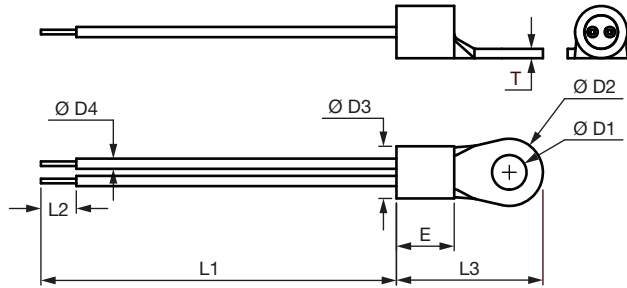
### PACKAGING

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