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	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) (1)	4	s
Thermal time constant τ_c (2)	4	s
Dissipation factor δ (2)	11	mW/K
Max. power dissipation at 55 °C (3)	400	mW
Minimum dielectric withstanding voltage between terminals and lug	2700	V_{AC}
Minimum insulation resistance between terminals and lug at 500 V_{DC}	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 ΔT = 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^2, 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

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_{RMS}, 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

Pb-free Available

e4 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

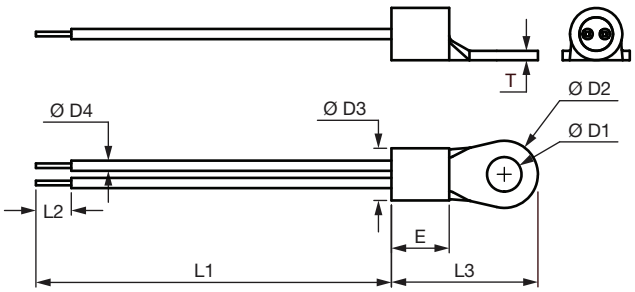
The thermistors are packed in cardboard boxes; the smallest packaging quantity is 200 units.

CAUTIONS AND WARNINGS ON MOUNTING AND HANDLING

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

- 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_1	L_2	Ø D_1	Ø D_2	Ø D_3	T	L_3	E	D_4
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_{25} (Ω)	R_{25} TOL. (± %)	$B_{25/85}$ (K)	$B_{25/85}$ TOL. (± %)	L_1 (mm)	DESCRIPTION	UL RECOG. c UL 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	✓	**NTCALUG01T103G**	**NTCALUG01T103GA**
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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