

## NTC Thermistors, Standard Lug Sensors



### 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	± 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) <sup>(1)</sup>	4	s
Thermal time constant $\tau_c$ <sup>(2)</sup>	5	s
Dissipation factor $\delta$ <sup>(2)</sup>	13	mW/K
Max. power dissipation at 55 °C <sup>(3)</sup>	400	mW
Minimum dielectric withstanding voltage between terminals and lug	1500	V <sub>AC</sub>
Minimum insulation resistance between terminals and lug at 500 V <sub>DC</sub>	100	MΩ
Weight	1.6 to 4.3	g

#### Notes

- <sup>(1)</sup> 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)
- <sup>(2)</sup> 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
- <sup>(3)</sup> 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?29194&documents](http://www.vishay.com/ppg?29194&documents)

### FEATURES

- Easy mounting using ring tongue terminal
- Rugged construction
- Cable of PTFE insulation according to NEMA HP-3, type E, rated 600 V<sub>RMS</sub> <sup>(1)</sup>
- 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

#### Note

- <sup>(1)</sup> 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

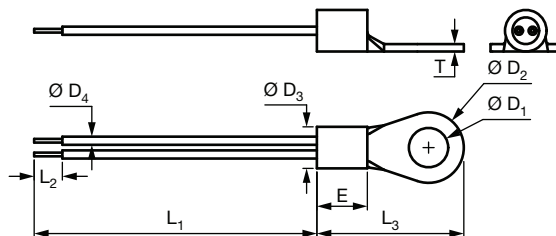
Please read the special instructions:

see [www.vishay.com/doc?29221](http://www.vishay.com/doc?29221)

- By means of M5 (stud #10) 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?29199](http://www.vishay.com/doc?29199)
- NTC curve computation: [www.vishay.com/thermistors/ntc-rt-calculator/](http://www.vishay.com/thermistors/ntc-rt-calculator/)

**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	2.5 ± 1	5.3 +0.2 / -0	9.5 ± 0.2	5.6 +0.3 / -0.2	1.0	19.8 ± 0.4	6.8 ± 0.3	1.12 ± 0.1

**ELECTRICAL DATA AND ORDERING INFORMATION**

R <sub>25</sub> (Ω)	R <sub>25</sub> <sup>+</sup> TOL. (± %)	B <sub>25/85</sub> (K)	B <sub>25/85</sub> -TOL. (± %)	L <sub>1</sub> (mm)	DESCRIPTION	UL RECOG. 	SAP MATERIAL AND ORDERING NUMBER	
							RoHS-COMPLIANT WITH EXEMPTION <sup>(1)</sup>	RoHS-COMPLIANT
10 000	2	3984	0.5	38.1 ± 3.8	NTC Lug54 M5 10K 2 % 3984 K PTFE AWG#24 38 mm	✓	NTCALUG54A103G	NTCALUG54A103GA
10 000	2	3435	1	38.1 ± 3.8	NTC Lug54 M5 10K 2 % 3435 K PTFE AWG#24 38 mm	✓	NTCALUG54A103GL	NTCALUG54A103GLA
10 000	2	3984	0.5	350 +10 / -5	NTC Lug54 M5 10K 2 % 3984 K PTFE AWG#24 350 mm	✓	NTCALUG54A103G351	NTCALUG54A103G351A
10 000	3	3984	0.5	150 +10 / -5	NTC Lug54 M5 10K 3 % 3984 K PTFE AWG#24 150 mm	✓	NTCALUG54A103H151	NTCALUG54A103H151A

**Notes**

Preferred versions for new designs

<sup>(1)</sup> 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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