



## NTC Thermistors, Standard Lug Sensors



### LINKS TO ADDITIONAL RESOURCES



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

- (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?29193&documents](http://www.vishay.com/ppg?29193&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

- (1) 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

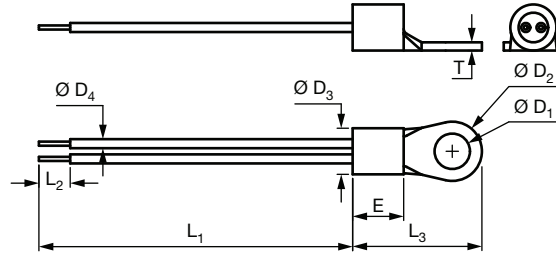
Please read the special instructions: see [www.vishay.com/doc?29221](http://www.vishay.com/doc?29221)

- By means of M4 (stud #8) 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?29198](http://www.vishay.com/doc?29198)
- NTC curve computation: [www.vishay.com/thermistors/ntc-rt-calculator/](http://www.vishay.com/thermistors/ntc-rt-calculator/)

### DIMENSIONS in millimeters



$L_1$	$L_2$	$\text{Ø } D_1$	$\text{Ø } D_2$	$\text{Ø } D_3$	$T$	$L_3$	$E$	$D_4$
Refer to the ordering table	$3.8 \pm 1$	$4.3 + 0.2 / - 0$	$7.2 \pm 0.2$	$5.6 + 0.3 / - 0.2$	1.0	$15.70 \pm 0.3$	$6.2 \pm 0.2$	$1.12 \pm 0.1$

### ELECTRICAL DATA AND ORDERING INFORMATION

$R_{25}$ ( $\Omega$ )	$R_{25}$ - TOL. ( $\pm$ %)	$B_{25/85}$ (K)	$B_{25/85}$ -TOL. ( $\pm$ %)	$L_1$ (mm)	DESCRIPTION	UL RECOG. US	SAP MATERIAL AND ORDERING NUMBER	
							RoHS-COMPLIANT WITH EXEMPTION (1)	RoHS-COMPLIANT
10 000	2	3984	0.5	$38.1 \pm 3.8$	NTC Lug91 M4 10K 2 % 3984 K PTFE AWG#24 38 mm	✓	NTCALUG91A103G	NTCALUG91A103GA
10 000	2	3435	1	$38.1 \pm 3.8$	NTC Lug91 M4 10K 2 % 3435 K PTFE AWG#24 38 mm	✓	NTCALUG91A103GL	NTCALUG91A103GLA
10 000	2	3984	0.5	$300 + 10 / - 5$	NTC Lug91 M4 10K 2 % 3984 K PTFE AWG#24 300 mm	✓	NTCALUG91A103G301	NTCALUG91A103G301A
10 000	3	3984	0.5	$150 + 10 / - 5$	NTC Lug91 M4 10K 3 % 3984 K PTFE AWG#24 150 mm	✓	NTCALUG91A103H151	NTCALUG91A103H151A

#### 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



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