

Vishay BCcomponents

NTC Thermistors, Low Thermal Gradient Lug Sensors





LINKS TO ADDITIONAL RESOURCES









QUICK REFERENCE DATA						
PARAMETER	VALUE	UNIT				
Resistance value at 25 °C (1)	4.7K to 100K	Ω				
Tolerance on R ₂₅ -value ⁽¹⁾	± 1; ± 2; ± 3	%				
B _{25/85} value ⁽¹⁾	3435 to 4190	K				
Tolerance on B _{25/85} -value	\pm 0.5; \pm 1.0; \pm 1.5	%				
Operating temperature range at zero power	-55 to +125	°C				
Thermal time constant τ	≈ 5	s				
Dissipation factor	10	mW/K				
Thermal gradient (2)	< 0.05	K/K				
Min. dielectric withstanding voltage between terminals and lug	1500	V_{AC}				
Min. insulation resistance between terminals and lug at 500 V _{DC}	100	МΩ				
Climatic category (LCT / UCT / days)	55 / 125 / 56					
Weight	≈ 1.0	g				

Notes

- (1) Other R₂₅-values, B_{25/85}-values, and tolerances are available upon request
- (2) The thermal gradient is the difference per °C between the true temperature of the surface to be sensed and the temperature measured by the sensor

AGENCY APPROVALS

- cUL certificate XGPU8.E148885
- ULus certificate XGPU2.E148885

Note

 Agency approval documents, please see: www.vishav.com/ppg?29094&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?29145
- NTC curve computation: www.vishav.com/thermistors/ntc-rt-calculator/

FEATURES

 Low thermal gradient due to the use of nickel conductor and low profile closed ring tongue



- AEC-Q200 qualified (grade 1)
- cULus recognized, file E148885 (UL category XGPU2/XGPU8)
- Mounting: assembly screw mounting
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS

APPLICATIONS

Thermistors used for accurate surface temperature sensing and control in:

- Computer equipment
- · Power electronics, heat-sink temperature control
- Consumer appliances
- · Industrial equipment
- Automotive equipment

DESCRIPTION

Vishay thermistor chip NTC with epoxy coating and middle buffer layer mounted in a tin plated copper ring lug with PEEK insulated leads AWG#30 (Ø 0.25 mm), mono-stranded silver-plated nickel.

PACKAGING

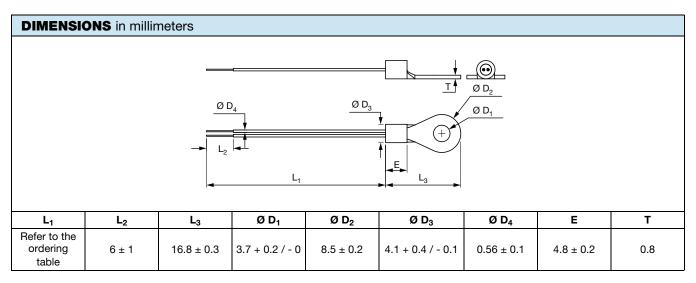
The thermistors are packed in cardboard boxes; the smallest packaging quantity is 500 units.

CAUTIONS AND WARNINGS ON MOUNTING AND HANDLING

Please read the special instructions:

- see www.vishay.com/doc?29221.
- The device is suitable for screwing e.g. on a metal surface through means of an M3 or M3.5 screw
- The connections are suitable for soldering on a PCB or for connector insertion
- The sensor is not suitable for being in permanent contact with water or liquids
- Other applicable screw hole sizes are available, for example M4 or American Stud #8
- AWG#28 or AWG#26 wires available on request

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ELECTRICAL DATA AND ORDERING INFORMATION								
R ₂₅ (Ω)	R ₂₅ -TOL. (± %)	В	B _{25/85} B _{25/85} -TOL. (± %)	L ₁ (mm)	UL RECOG.	SAP MATERIAL AND ORDERING NUMBER		
		(K)				RoHS-COMPLIANT WITH EXEMPTION ⁽¹⁾	RoHS-COMPLIANT	
4700	2	3984	0.5	45 ± 3		NTCALUG02A472G	NTCALUG02A472GA	
4700	1	3984	0.5	45 ± 3		NTCALUG02A472F	NTCALUG02A472FA	
5000	2	3984	0.5	45 ± 3	✓	NTCALUG02A502G	NTCALUG02A502GA	
10 000	2	3984	0.5	45 ± 3	✓	NTCALUG02A103G (2)	NTCALUG02A103GA	
10 000	1	3984	0.5	45 ± 3	✓	NTCALUG02A103F	NTCALUG02A103FA	
10 000	1	3984	0.5	80 +5 / -3	✓	NTCALUG02A103F800	NTCALUG02A103F800A	
10 000	1	3984	0.5	160 +5 / -3	✓	NTCALUG02A103F161	NTCALUG02A103F161A	
10 000	1	3435	1.0	45 ± 3	✓	NTCALUG02A103FL	NTCALUG02A103FLA	
10 000	1	3435	1.0	80 +5 / -3	✓	NTCALUG02A103F800L	NTCALUG02A103F804A	
10 000	1	3435	1.0	160 +5 / -3	✓	NTCALUG02A103F161L	NTCALUG02A103F165A	
100 000	3	4190	1.5	45 ± 3		NTCALUG02A104H	NTCALUG02A104HA	

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

⁽²⁾ Is also known under material number NTCALUGE4C90294



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