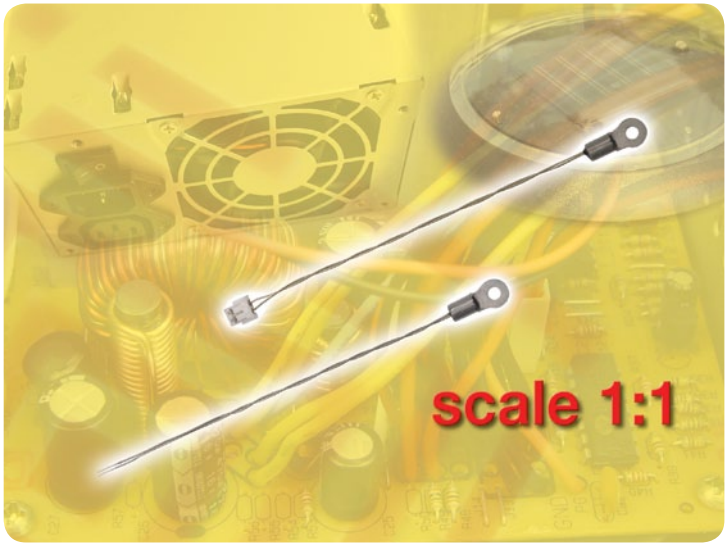
Resistors - Fast Response Time < 4 s

NTC Thermistors, Mini Lug Series



KEY BENEFITS

- Smallest mounting space of 65 mm^2 (0.1 in^2) only with tiny 5 mm ring tongue
- Short response time, < 4 s
- Lower thermal gradient, < 5 % of ΔT
- Space savings for limited surface areas

APPLICATIONS

- Heatsink thermal management
- Power electronics thermal management
- Housing surface temperature measurement
- Pipe and conductor temperature measurement

RESOURCES

- Datasheet: NTCALUG03 Mini Lug Series - http://www.vishay.com/doc?29114
- For technical questions contact nlr@vishay.com

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NTC Thermistors, Mini Lug Series

FEATURES

- Fast time response for surface applications compared to industry standard NTC lug sensors
- Reduced thermal gradient, due to the use of small dimensions and nickel conductor, allowing for an accurate surface temperature measurement
- The sensor is not suitable for being permanently in contact with water or liquids
- Small size connector and small lug ring tongue terminal, allowing for temperature sensing at locations where only limited space is available
- Connector ZHR-2 (optional)
- Compliant to RoHS Directive 2011/65/EU

RoHS COMPLIANT

APPLICATIONS

Thermistors used for surface temperature sensing and control in:

- Computer equipment
- MOSFETS, IC's, Power Electronics, heatsink temperature control, LED emitter heat-sink control
- Consumer appliances
- Industrial equipment
- Automotive equipment

DESCRIPTION

Miniature insulated chip thermistor with a negative temperature coefficient in accordance with IEC 60539. The device has no marking.

MOUNTING

- The sensor can be mounted by means of a screw. For stud size, metric 2 mm M2/American stud #1 or #2
- The end wire can be soldered, welded or crimped to a connector
- Optional connector for Wire-to-Wire or Wire-to-Board connections

QUICK REFERENCE DATA		
PARAMETER	**VALUE**	**UNIT**
Resistance value at 25 °C	10K to 47K	Ω
Tolerance on R_{25}-value	± 2 to ± 3	%
$B_{25/85}$-value	3740 to 3984	K
Tolerance on $B_{25/85}$-value	± 0.5 to ± 1.5	%
Operating temperature range: At zero dissipation	 - 40 to + 125	°C
Response time	3.5	s
Thermal time constant τ	≈ 5	s
Dissipation factor δ	10	mW/K
Maximum power dissipation at 25 °C	100	mW
Min. dielectric withstanding voltage between terminals and lug	1000	V_{AC}
Climatic category (LCT/UCT/days)	40/125/56	-
Weight without connector with connector	 0.5 0.6	 g g

Note

- Other R_{25} values and tolerances available upon request

ELECTRICAL DATA AND ORDERING INFORMATION					
R_{25}-VALUE (kΩ)	R_{25}-TOL. (%)	$B_{25/85}$-VALUE (K)	$B_{25/85}$-TOL. (± %)	SAP MATERIAL NUMBER	DESCRIPTION
10	± 3	3984	0.5	NTCALUG03A103H	NTC Mini Lug 10K 3 % 3984 K 0.5 %
10	± 3	3984	0.5	NTCALUG03A103HC	NTC Mini Lug 10K 3 % 3984 K 0.5 % with connector
10	± 2	3984	0.5	NTCALUG03A103G	NTC Mini Lug 10K 2 % 3984 K 0.5 %
10	± 2	3984	0.5	NTCALUG03A103GC	NTC Mini Lug 10K 2 % 3984 K 0.5 % with connector
12	± 3	3740	1.5	NTCALUG03A123H	NTC Mini Lug 12K 3 %
12	± 3	3740	1.5	NTCALUG03A123HC	NTC Mini Lug 12K 3 % with connector
47	± 3	3740	1.5	NTCALUG03A473H	NTC Mini Lug 47K 3 %
47	± 3	3740	1.5	NTCALUG03A473HC	NTC Mini Lug 47 kΩ 3 % with connector

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Note

- Ordering information can be found on: www.vishay.com/doc?33036