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Vishay BCcomponents

NTC Thermistors, Standard Lug Sensors





DESIGN SUPPORT TOOLS

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- SPICE models available: www.vishay.com/doc?29178
- NTC curve computation: <u>www.vishay.com/thermistors/ntc-curve-list/</u>

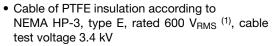
| QUICK REFERENCE DATA | | | | | | | |
|---|----------------|-----------------|--|--|--|--|--|
| PARAMETER | VALUE | UNIT | | | | | |
| Resistance value at 25 °C (1) | 4.7K to 100K | Ω | | | | | |
| Tolerance on R ₂₅ -value ⁽¹⁾ | ± 1 to ± 5 | % | | | | | |
| B _{25/85} -value ⁽¹⁾ | 3435 to 4190 | K | | | | | |
| Tolerance on B _{25/85} -value | ± 0.5 to ± 1.5 | % | | | | | |
| Operating temperature range at: | °C | | | | | | |
| Zero dissipation | -40 to +150 | | | | | | |
| Dissipation factor (2) | ≈ 23 | mW/K | | | | | |
| Thermal time constant (2) | ≈ 7.5 | s | | | | | |
| Min. dielectric withstanding voltage between terminals and lug | 1500 | V _{AC} | | | | | |
| Min. insulation resistance between terminals and lug at 500 V _{DC} | 100 | ΜΩ | | | | | |
| Climatic category (LCT / UCT / days) | 40 / 150 / 56 | | | | | | |
| Weight | 1.5 to 2.3 | g | | | | | |

Notes

- Other R₂₅-values, B_{25/85}-values, and tolerances are available upon request
- $^{(2)}$ Measured with screw mounted on an aluminum heatsink of 100 cm², thickness 1.5 mm, in still air at T_{amb} = +25 $^{\circ}\text{C}$

FEATURES

- Easy mounting using ring tongue terminal
- Rugged construction





RoHS

- AEC-Q200 qualified (grade 1)
- UL recognized, file E148885 (UL category XGPU2)
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

Note

(1) Formerly MIL-W-16878/4, type E

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 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 twisted and tinned.

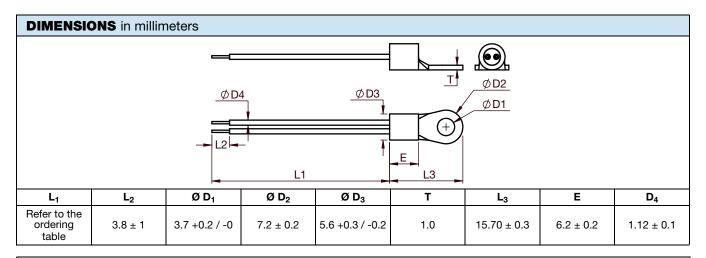
PACKAGING

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

MOUNTING

- 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
- Consult Vishay for other cable length, cable section, screw sizes, insulation, connector crimping, or other features

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| ELECTRICAL DATA AND ORDERING INFORMATION | | | | | | | | | | |
|--|--------------------------------|------------------------|-----------------------------------|---------------------|--|---------------------------------------|--|-----------------------|--|--|
| R ₂₅ (Ω) | R ₂₅ -TOL. (± %) | B _{25/85} (K) | B _{25/85} -TOL. (± %) | L ₁ (mm) | DESCRIPTION | SAP MATERIAL AND ORDERING NUMBER | | UL | | |
| | | | | | | with RoHS exemption ⁽²⁾ | without RoHS exemption ⁽²⁾ | RECOGNIZED (Y / N) | | |
| 4700 | 3 | 3984 | 0.5 | 38.1 ± 3.8 | NTC Lug01 4.7K 3 % 3984K PTFE AWG#24 38 mm | NTCALUG01A472H | NTCALUG01A472HA | N | | |
| 10 000 | 1 | 3435 | 1 | 38.1 ± 3.8 | NTC Lug01 10K 1 % 3435K PTFE AWG#24 38 mm | NTCALUG01A103FL | NTCALUG01A103FLA | Υ | | |
| 10 000 | 1 | 3984 | 0.5 | 38.1 ± 3.8 | NTC Lug01 10K 1 % 3984K PTFE AWG#24 38 mm | NTCALUG01A103F | NTCALUG01A103FA | Y | | |
| 10 000 | 1 | 3984 | 0.5 | 80 ± 5 | NTC Lug01 10K 1 % 3984K PTFE AWG#24 80 mm | NTCALUG01A103F800 | NTCALUG01A103F800A | Y | | |
| 10 000 | 1 | 3435 | 1 | 80 ± 5 | NTC Lug01 10K 1 % 3435K PTFE AWG#24 80 mm | NTCALUG01A103F800L | NTCALUG01A103F804A | Υ | | |
| 10 000 | 1 | 3984 | 0.5 | 160 +10 / -5 | NTC Lug01 10K 1 % 3984K PTFE AWG#24 160 mm | NTCALUG01A103F161 | NTCALUG01A103F161A | Υ | | |
| 10 000 | 1 | 3435 | 1 | 160 +10 / -5 | NTC Lug01 10K 1 % 3435K PTFE AWG#24 160 mm | NTCALUG01A103F161L | NTCALUG01A103F165A | Υ | | |
| 10 000 | 2 | 3984 | 0.5 | 38.1 ± 3.8 | NTC Lug01 10K 2 % 3984K PTFE AWG#24 38 mm | NTCALUG01A103G | NTCALUG01A103GA | Υ | | |
| 10 000 | 3 | 3984 | 0.5 | 38.1 ± 3.8 | NTC Lug01 10K 3 % 3984K PTFE AWG#24 38 mm | NTCALUG01A103H | NTCALUG01A103HA | Y | | |
| 10 000 | 5 | 3984 | 0.5 | 38.1 ± 3.8 | NTC Lug01 10K 5 % 3984K PTFE AWG#24 38 mm | NTCALUG01A103J (1) | NTCALUG01A103JA | Y | | |
| 47 000 | 3 | 4090 | 1.5 | 38.1 ± 3.8 | NTC Lug01 47K 3 % 4090K PTFE AWG#24 38 mm | NTCALUG01A473H | NTCALUG01A473HA | N | | |
| 100 000 | 1 | 4190 | 1.5 | 38.1 ± 3.8 | NTC Lug01 100K 1 % 4190K PTFE AWG#24 38 mm | NTCALUG01A104F | NTCALUG01A104FA | N | | |
| 100 000 | 2 | 4190 | 1.5 | 38.1 ± 3.8 | NTC Lug01 100K 2 % 4190K PTFE AWG#24 38 mm | NTCALUG01A104G | NTCALUG01A104GA | N | | |

Notes

⁽¹⁾ NTCALUG01A103J identical to NTCALUGE2C90169 = 2381 645 90169

⁽²⁾ 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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