

NTC Thermistors, Steel Capped Sensors

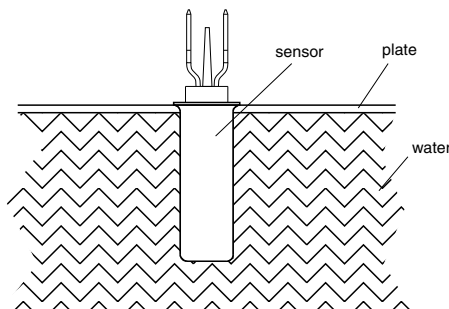


| QUICK REFERENCE DATA | | |
|--|--------------|-----------|
| PARAMETER | VALUE | UNIT |
| Resistance value at 25 °C | 12K | Ω |
| Tolerance on R_{25} -value | ± 4.0 | % |
| $B_{25/85}$ -value | 3730 | K |
| Tolerance on $B_{25/85}$ -value | ± 1.5 | % |
| Operating temperature range at zero dissipation | -25 to +110 | °C |
| Max. short term operation | 130 | |
| Resistance value at 0 °C | 35 875 ± 7 % | Ω |
| Resistance value at 85 °C | 1475 ± 3 % | |
| Resistance value at 100 °C | 963 ± 4.2 % | |
| Maximum power dissipation at 55 °C | 250 | mW |
| Dissipation factor | | mW/K |
| in still air (for information only) | 7.5 | |
| in still water (for information only) | 18 | |
| Thermal time constant in still air (τ) | 285 | s |
| Response time ⁽¹⁾ | 13 to 16 | |
| Temperature gradient ⁽²⁾ | ≤ 0.02 | K/K |
| Minimum dielectric withstanding voltage between terminals and capsule during | | V_{RMS} |
| 1 min | 1500 | |
| 10 s | 1650 | |
| Minimum insulation resistance between terminals and capsule at 100 V_{DC} | 100M | Ω |
| Weight | ≈ 8 | g |

Notes

- (1) The response time is the time necessary to change 63.2 % of the total difference between the initial and the final body temperature, when subjected to a step function change in ambient temperature from 25 °C air to boiling water at 100 °C
- (2) The temperature gradient is the difference per degree Celsius between the true temperature of the liquid (water) and the temperature measured by the sensor

METHOD OF APPLICATION



FEATURES

- High mechanical strength
- FASTON connectors for easy connection
- Accuracy of ± 1 °C between 25 °C and 85 °C
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

APPLICATIONS

- Sensors for water temperature control in, for example:
 - Washing machines
 - Dish washers
 - Heat pumps
 - Electric boilers

DESCRIPTION

These thermistors have a negative temperature coefficient. The device consists of a soldered ceramic chip which is mounted in a capsule of stainless steel SS304 and provided with two 6.3 mm tinned spade connectors.

MOUNTING

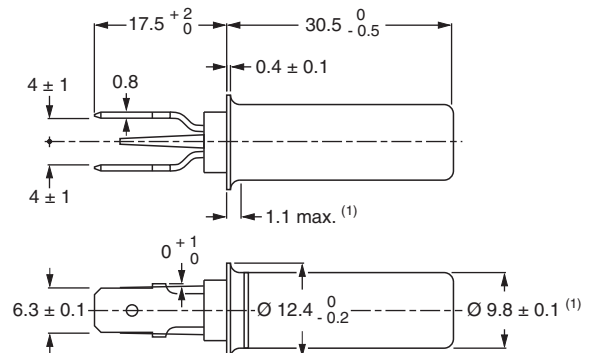
Connect to two FASTONS 6.3 x 0.8 (0.25" x 0.032") receptacle or equivalent and mounted with a watertight sealing.

DESIGN-IN SUPPORT

For complete curve computation, visit: www.vishay.com/thermistors/ntc-curve-list/

DIMENSIONS in millimeters

Component outline



ELECTRICAL DATA AND ORDERING

| R_{25} (Ω) | R_{25} -TOL. (± %) | $B_{25/85}$ (K) | $B_{25/85}$ -TOL. (± %) | SAP MATERIAL AND ORDERING NUMBER |
|-----------------|-------------------------|--------------------|----------------------------|----------------------------------|
| 12 000 | 4 | 3730 | 1.5 | NTCAIMME3C90042 |



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