NTC Thermistors, Steel Capped Sensors

FEATURES

- High mechanical strength
- FASTON connectors for easy connection
- Accuracy of ± 1 °C between 25 °C and 85 °C
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

Pb e3 RoHS COMPLIANT

APPLICATIONS

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

QUICK REFERENCE DATA

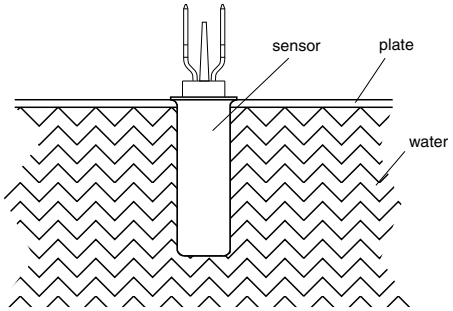
PARAMETER	VALUE	UNIT
Resistance value at 25 °C	12K	Ω
Tolerance on R_{25}-value	± 4.0	%
$B_{25/85}$-value	3730	K
Tolerance on $B_{25/85}$-value	± 1.5	%
Operating temperature range at zero dissipation	- 25 to + 110	°C
Resistance value at 0 °C	35 875 ± 7 %	Ω
Resistance value at 85 °C	1475 ± 3 %	
Resistance value at 100 °C	963 ± 4.2 %	
Maximum power dissipation at 55 °C	250	mW
Dissipation factor in still air (for information only) in still water (for information only)	 7.5 18	mW/K
Thermal time constant in still air (τ) (1)	285	s
Response time (1)	13 to 16	
Temperature gradient (2)	≤ 0.02	K/K
Minimum dielectric withstanding voltage between terminals and capsule during 1 min 3 s	 1500 1650	V_{RMS}
Minimum insulation resistance between terminals and capsule at 100 V_{DC}	100M	Ω
Climatic category (LCT/UCT/days)	25/110/56	
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.
Step change:
a. Initial temperature: Air at 25 °C
b. Final temperature: 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



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 and provided with two 6.3 mm tinned spade connectors.
The device is non-flammable and the housing is stainless steel.

MOUNTING

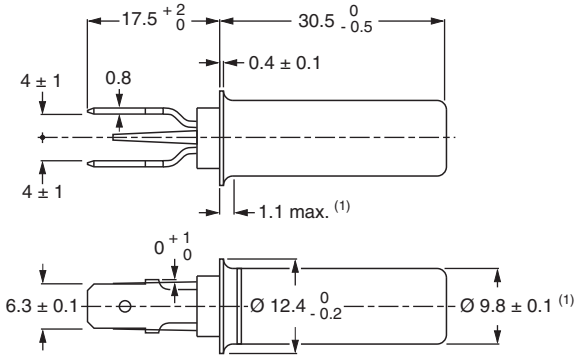
Connect to two FASTONS 6.3 x 0.8 (0.25" x 0.032") receptacle or equivalent and mounted with a watertight sealing.

DESIGN-IN SUPPORT

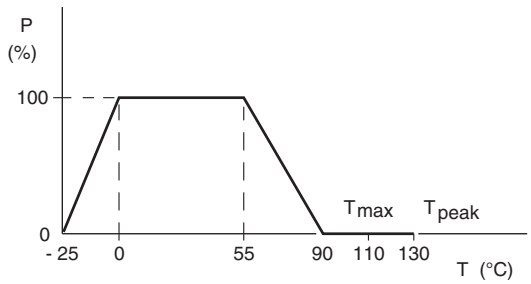
$R_{(T)}$ table spreadsheet available on request at nlr@vishay.com.

DIMENSIONS in millimeters

Component outline



DERATING



Power derating curve

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