

NTC Thermistors, Steel Capped Sensors


RoHS
COMPLIANT

FEATURES

- High mechanical strength
- FASTON connectors for easy connection
- Accuracy of $\pm 1\text{ }^\circ\text{C}$ between $25\text{ }^\circ\text{C}$ and $85\text{ }^\circ\text{C}$
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

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 and provided with two 6.3 mm tinned spade connectors.

The device is non-flammable and the housing is stainless steel.

MOUNTING

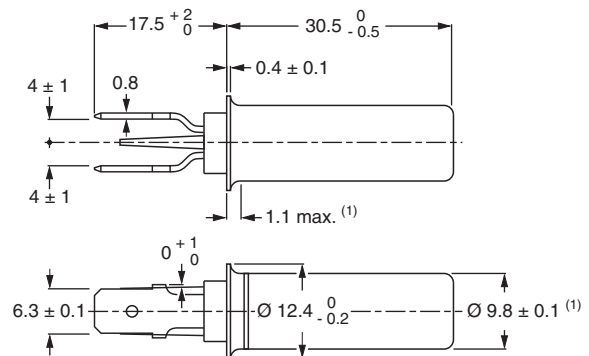
Connect to two FASTONS 6.3 x 0.8 (0.25" x 0.032") receptacle or equivalent and mounted with a watertight sealing.

DESIGN-IN SUPPORT

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

DIMENSIONS in millimeters

Component outline



QUICK REFERENCE DATA		
PARAMETER	VALUE	UNIT
Resistance value at $25\text{ }^\circ\text{C}$	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	$^\circ\text{C}$
Resistance value at $0\text{ }^\circ\text{C}$	$35\ 875 \pm 7\%$	Ω
Resistance value at $85\text{ }^\circ\text{C}$	$1475 \pm 3\%$	
Resistance value at $100\text{ }^\circ\text{C}$	$963 \pm 4.2\%$	
Maximum power dissipation at $55\text{ }^\circ\text{C}$	250	mW
Dissipation factor in still air (for information only)	7.5	mW/K
Dissipation factor in still water (for information only)	18	
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		V_{RMS}
1 min	1500	
3 s	1650	
Minimum insulation resistance between terminals and capsule at $100\text{ }V_{\text{DC}}$	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.

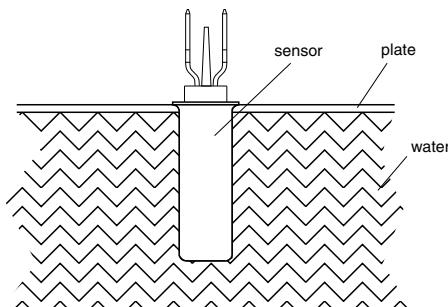
Step change:

a. Initial temperature: Air at $25\text{ }^\circ\text{C}$

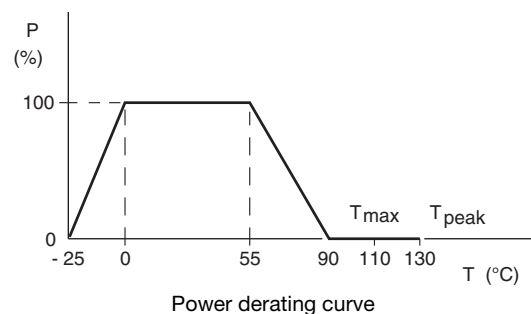
b. Final temperature: Water at $100\text{ }^\circ\text{C}$

- ⁽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



DERATING





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