NTC Thermistors, Steel Capped Sensors

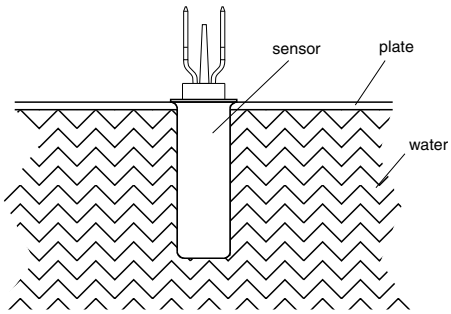
QUICK REFERENCE DATA		
PARAMETER	VALUE	UNIT
Resistance value at 25 °C	12K	Ω
Tolerance on R_{25}-value	± 4.0	%
$B_{25/85}$-value	3730	K
Tolerance on $B_{25/85}$-value	± 1.5	%
Operating temperature range at zero dissipation Max. short term operation	-25 to +110 130	°C
Resistance value at 0 °C	35 875 ± 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)	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 10 s	 1500 1650	V_{RMS}
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

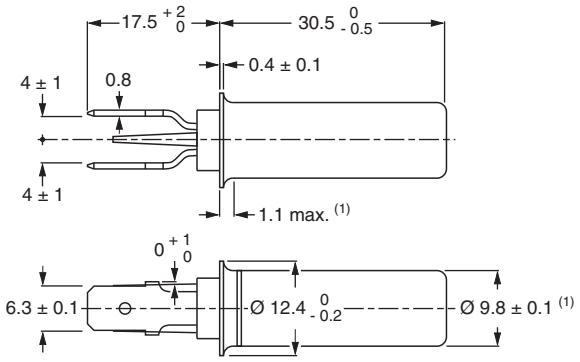
Connect to two FASTONS 6.3 x 0.8 (0.25" x 0.032") receptacle or equivalent and mounted with a watertight sealing.

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

For technical questions, contact: nlr@vishay.com

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