

NTC Thermistors, Steel Capped Sensors


 RoHS
COMPLIANT

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

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

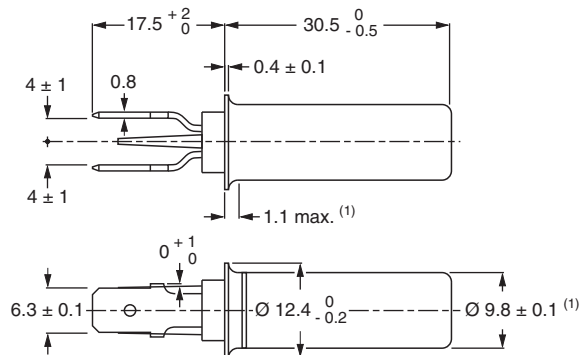
Connect to two FASTONS 6.3 x 0.8 (0.25" x 0.032") receptacle or equivalent and mounted with a watertight sealing.

DESIGN-IN SUPPORT

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

DIMENSIONS in millimeters

Component outline

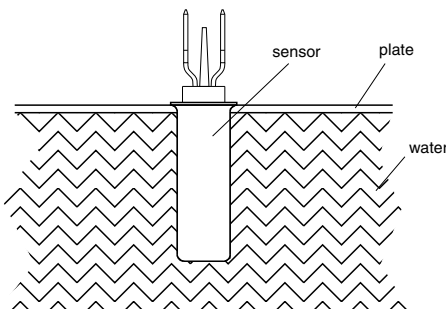


QUICK REFERENCE DATA			
PARAMETER	VALUE	UNIT	
Resistance value at 25 °C	12K	Ω	
Tolerance on R_{25} -value	± 4.0	%	
$B_{25/85}$ -value	3730	K	
Tolerance on $B_{25/85}$ -value	± 1.5	%	
Operating temperature range at zero dissipation	-25 to +110	°C	
Max. short term operation	130		
Resistance value at 0 °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 in still air (for information only)	7.5	mW/K	
	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



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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