

## NTC Thermistors, Steel Capped Sensors



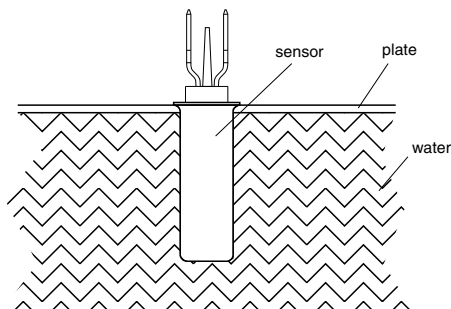
### QUICK REFERENCE DATA

PARAMETER	VALUE	UNIT
Resistance value at 25 °C	12K	$\Omega$
Tolerance on $R_{25}$ -value	$\pm 4.0$	%
$B_{25/85}$ -value	3730	K
Tolerance on $B_{25/85}$ -value	$\pm 1.5$	%
Operating temperature range at zero dissipation	-25 to +110	°C
Max. short term operation	130	
Resistance value at 0 °C	$35\,875 \pm 7\%$	$\Omega$
Resistance value at 85 °C	$1475 \pm 3\%$	
Resistance value at 100 °C	$963 \pm 4.2\%$	
Maximum power dissipation at 55 °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 ( $\tau$ )	285	s
Response time <sup>(1)</sup>	13 to 16	
Temperature gradient <sup>(2)</sup>	$\leq 0.02$	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 <sub>DC</sub>	100M	$\Omega$
Weight	$\approx 8$	g

#### Notes

- <sup>(1)</sup> 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
- <sup>(2)</sup> 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  $\pm 1$  °C between 25 °C and 85 °C
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://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

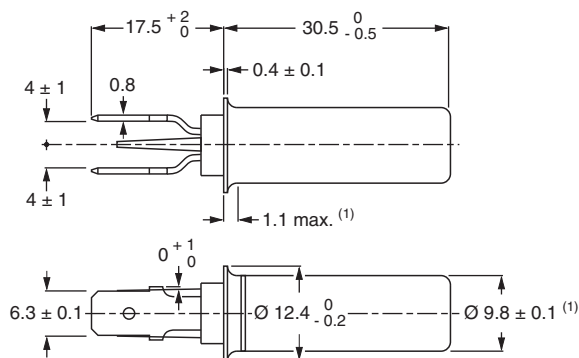
Connect to two FASTONS 6.3 x 0.8 (0.25" x 0.032") receptacle or equivalent and mounted with a watertight sealing.

### DESIGN-IN SUPPORT

For complete curve computation, visit: [www.vishay.com/thermistors/ntc-curve-list/](http://www.vishay.com/thermistors/ntc-curve-list/)

### DIMENSIONS in millimeters

Component outline



### ELECTRICAL DATA AND ORDERING

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



## Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.