

DATA SHEET

2322 640 90042
**NTC thermistors,
steel capped sensors**

Product specification
Supersedes data of May 1995
File under BCcomponents, BC02

1998 Sep 04

NTC thermistors, steel capped sensors

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FEATURES

- Excellent performance in humid environments
- High mechanical strength
- AMP connectors for easy connection
- Excellent accuracy over a wide temperature range.

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 ceramic material which is mounted in a capsule of stainless steel and provided with two 6.3 mm tinned bronze spade connectors.

The device is non-flammable and the housing is stainless steel in accordance with "DIN 1.4301" (× 5 CrNi 18 9).

QUICK REFERENCE DATA

PARAMETER	VALUE
Resistance value at:	
0 °C	35875 Ω ±7%
25 °C	12000 Ω ±4%
85 °C	1475 Ω ±3%
100 °C	963 Ω ±4.2%
Maximum dissipation	250 mW
Operating temperature range:	
at zero power; continuously	-25 to +110 °C
at zero power; peak	130 °C
at maximum power	0 to +55 °C
Mass	≈8 g

MARKING

Green marking between the connectors.

MOUNTING

Electrical mounting with AMP connectors in any position.

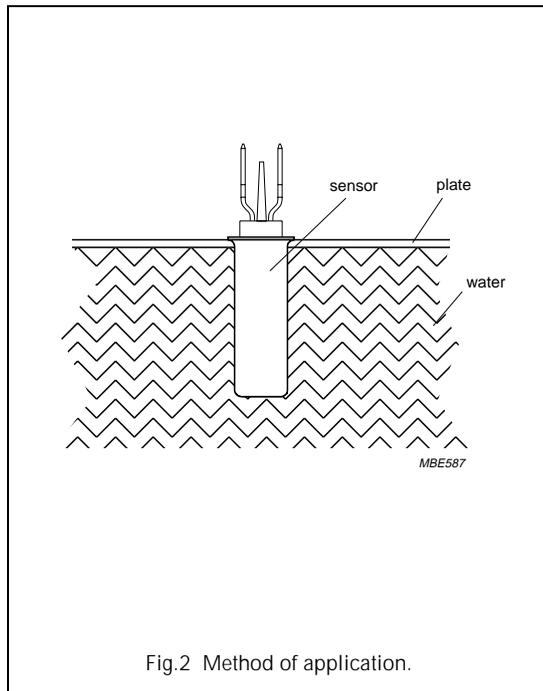
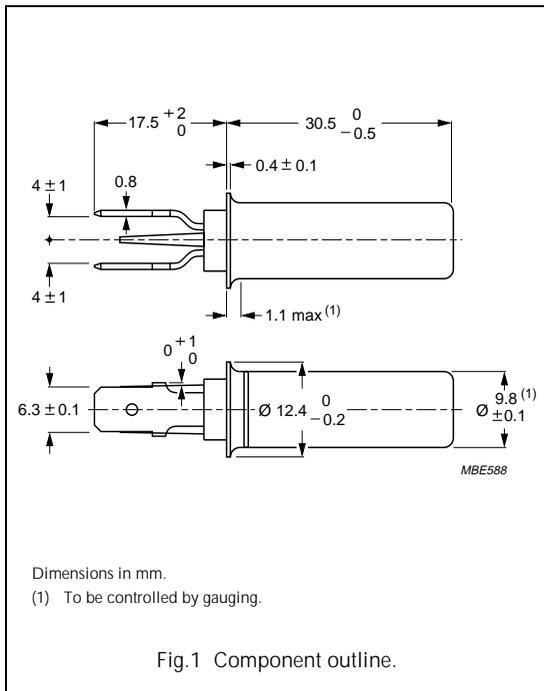
PACKAGING

The thermistors are packed in cardboard boxes; the smallest packaging quantity is 50 units.

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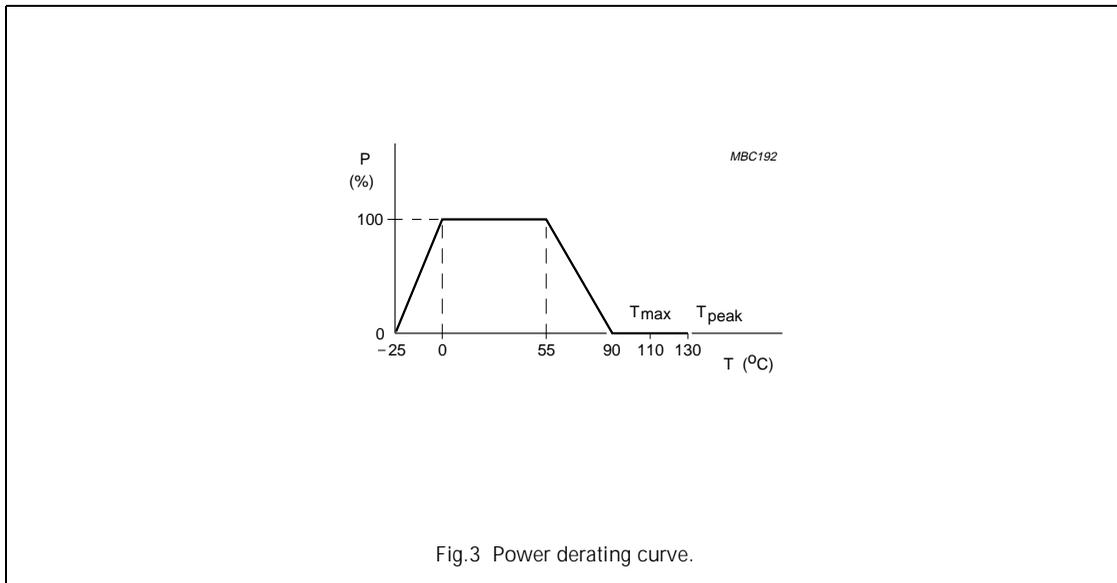
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MECHANICAL DATA



ELECTRICAL DATA

Derating



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Electrical characteristics

Unless otherwise stated, measurements are in accordance with "IEC publication 60539" and "CECC 43000".
Stability is in accordance with "CECC 43000" and "IEC 60068-2".

PARAMETER	VALUE
Resistance value at:	
0 °C	35875 Ω \pm 7%
25 °C	12000 Ω \pm 4%
85 °C	1475 Ω \pm 3%
100 °C	963 Ω \pm 4.2%
B _{25/85} -value	3730 K
Temperature coefficient	-4.2%/K
Dissipation	\leq 250 mW
Dissipation factor:	
in still air (for information only); note 1	7.5 mW/K
in still water (for information only); note 1	18 mW/K
Thermal time constant (t) in still air; note 1	285 s
Response time; note 2	13 to 16 s
Temperature gradient; note 3	\leq 0.02 K/K
Operating temperature range:	
at zero power; continuously	-25 to +110 °C
at zero power; peak during 24 hours	130 °C
at maximum power	0 to +55 °C
Minimum dielectric withstanding voltage (RMS) between terminals and capsule during:	
1 minute	1500 V
10 seconds	1650 V
Minimum insulation resistance between terminals and capsule at 100 V (DC)	100 M Ω

Notes

- Measured with AMP connectors in still air with solid copper wires of 1 mm diameter.
- 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:
 - initial temperature: air at 25 °C
 - final temperature: water at 100 °C.
- The temperature gradient is the difference per degree Celsius between the true temperature of the liquid (water) and the temperature measured by the sensor.