# NTC Thermistors, Long Insulated Leads

## LINKS TO ADDITIONAL RESOURCES

3D Models | Design Tools | Related Documents

## FEATURES

- Long and flexible leads for special mounting or assembly requirements
- Best accuracy of ± 0.4 °C at 0 °C
- Electrical features of “accuracy line” sensors
- Mounting: radial insulated leads
- AEC-Q200 qualified
- Small head diameter with fast response time of 1.2 s
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

RoHS COMPLIANT

## APPLICATIONS

- Temperature measurement, sensing and control in automotive and industrial applications as e.g. battery cells and packs

## DESCRIPTION

These negative temperature coefficient thermistors consist of a mini-chip soldered between two AWG #30 PEEK insulated silver plated nickel leads and coated with ocher colored epoxy lacquer. High adhesive strength between PEEK wire and encapsulating lacquer.

## PACKAGING

The thermistors are packed in cardboard boxes; the smallest packing quantity is 1000 units.

## MARKING

The component is not marked.

## MOUNTING

**Important mounting and handling instructions: see www.vishay.com/doc?29222**

By soldering or crimping the wire end in any position. The body can be inserted in a tube, free in air, tape attached or glued.

Not intended for fluid immersed applications or continuous contact with water or conducting liquids. Can be potted in suitable resins. Consult Vishay for specific applications, mounting, alternative RT curves, or wire length.

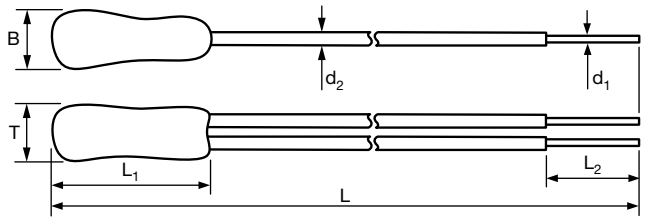
## QUICK REFERENCE DATA

| PARAMETER | VALUE | UNIT |
|---|---|---|
| Resistance value at 25 °C | 2765 | Ω |
| Tolerance on $R_{25}$-value | ± 2.93 | % |
| $B_{25/85}$-value | 3977 | K |
| Tolerance on $B_{25/85}$-value | ± 0.75 | % |
| Operating temperature range at zero dissipation | -40 to +125 | °C |
| Resistance value at 0 °C | 9000 | Ω |
| Tolerance on $R_0$-value | ± 2.0 | % |
| Maximum power dissipation at 55 °C | 100 | mW |
| Minimum dielectric withstanding voltage (RMS) between leads and coating | 500 | V |
| Dissipation factor δ (for information only) | 1.35 | mW/K |
| Response time | 1.25 | s |
| Weight | ≈ 0.16 | g |

## DESIGN-IN SUPPORT

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

## DIMENSIONS in millimeters




| T | B | L | $L_1$ | $L_2$ | Ø $d_{2\ MAX.}$ | Ø $d_1$ |
|---|---|---|---|---|---|---|
| 2.0 to 2.5 | 2.0 to 2.5 | 110 ± 3 | 6 ± 1 | 5 ± 2 | 0.58 | 0.25 ± 0.025 |

## ELECTRICAL DATA AND ORDERING INFORMATION

| $R_{25}$ (Ω) | $R_{25}$-TOL. (± %) | $B_{25/85}$ (K) | $B_{25/85}$-TOL. (± %) | SAP MATERIAL AND ORDERING NUMBER | |
|---|---|---|---|---|---|
| | | | | RoHS COMPLIANT WITH EXEMPTION (1) | RoHS COMPLIANT |
| 2765 | 2.93 | 3977 | 0.75 | NTCLE301E4C90059 | NTCLE301E4C90059A |

**Notes**

Preferred versions for new designs

(1) RoHS exemption 7(c)-I: electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezo-electronic devices, or in a glass or ceramic matrix compound

# 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.