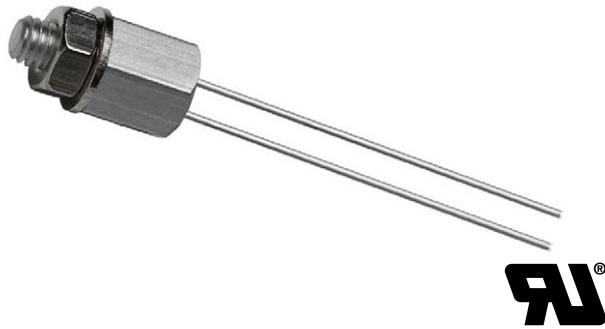


NTC Thermistors, Screw Threaded Sensors



FEATURES

- Easy mounting with screw
- Rugged construction
- UL recognized, file E148885 (UL category XGPU2)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

APPLICATIONS

- Temperature measurement, sensing and control
- Suitable for surface temperature applications, especially when a good electrical insulation and a good thermal contact with the chassis is required

DESCRIPTION

The thermistors are made of NTC ceramic material reflow soldered between two solid tinned copper wires or low thermal conducting 0.5 mm solid tinned nickel wires and potted in the head of passivated aluminum (**size M4**).

PACKAGING

The thermistors are packed in cardboard boxes; the smallest packaging quantity is 100 units.

DESIGN-IN SUPPORT

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

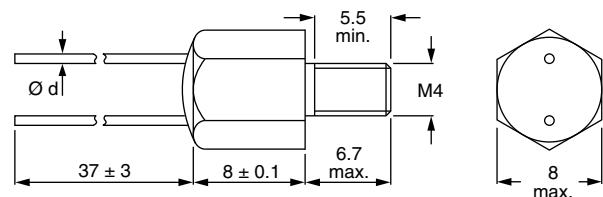
MARKING

4 digits marking indicating resistance value and tolerance in accordance with the information in Electrical Data and Ordering Information table.

MOUNTING

By means of a washer and M4 nut supplied with the device or in a threaded screw hole. Applied torque shall not exceed 1.2 Nm. Leads to be soldered or crimped.

DIMENSIONS in millimeters



Component outline

| QUICK REFERENCE DATA | | |
|--|------------------------|--------------------|
| PARAMETER | VALUE | UNIT |
| Resistance value at 25 °C | 1K to 470K | Ω |
| Tolerance on R_{25} -value | $\pm 1, \pm 2, \pm 5$ | % |
| $B_{25/85}$ -value | 3528 to 4570 | K |
| Tolerance on $B_{25/85}$ -value | ± 0.5 to ± 2.5 | % |
| Operating temperature range at: Zero dissipation | -25 to +100 | $^{\circ}\text{C}$ |
| Maximum power dissipation | 0 to +55 | |
| Dissipation factor ⁽¹⁾ | ≈ 23 | mW/K |
| Maximum power dissipation | 500 | mW |
| Thermal time constant ⁽¹⁾ | ≈ 7.5 | s |
| Min. dielectric withstanding voltage between terminals and Al case | 1500 | V_{AC} |
| Insulation resistance between terminals and Al case | min. 100 | $M\Omega$ |
| Weight | ≈ 1.5 | g |

Notes

- Other R_{25} -values and tolerances are available upon request
- Insulated leads available upon request
- ⁽¹⁾ Measured with screw mounted on an aluminum heatsink of 100 cm², thickness 1.5 mm, in still air at $T_{amb} = +25^{\circ}\text{C}$

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | | | |
|--|------------------------------|--------------------|---------------------------------|--|----------------------------------|--------------|
| R_{25} (Ω) | R_{25} -TOL. (\pm %) | $B_{25/85}$ (K) | $B_{25/85}$ -TOL. (\pm %) | LEADS DIAMETER $\varnothing d$ (mm) | SAP MATERIAL AND ORDERING NUMBER | MARKING CODE |
| 1000 | 5 | 3528 | 0.5 | 0.6 | NTCASCWE3102J | 102J |
| 2200 | 5 | 3977 | 0.75 | 0.6 | NTCASCWE3222J | 222J |
| 4700 | 1 | 3977 | 0.75 | 0.5 | NTCASCWE3472F | 472F |
| 4700 | 2 | 3977 | 0.75 | 0.5 | NTCASCWE3472G | 472G |
| 4700 | 5 | 3977 | 0.75 | 0.6 | NTCASCWE3472J | 472J |
| 10 000 | 1 | 3977 | 0.75 | 0.5 | NTCASCWE3103F | 103F |
| 10 000 | 2 | 3977 | 0.75 | 0.5 | NTCASCWE3103G | 103G |
| 10 000 | 5 | 3977 | 0.75 | 0.6 | NTCASCWE3103J | 103J |
| 12 000 | 5 | 3740 | 1.5 | 0.6 | NTCASCWE3123J | 123J |
| 15 000 | 5 | 3740 | 1.5 | 0.6 | NTCASCWE3153J | 153J |
| 47 000 | 5 | 4090 | 1.5 | 0.6 | NTCASCWE3473J | 473J |
| 100 000 | 1 | 4190 | 1.5 | 0.5 | NTCASCWE3104F | 104F |
| 100 000 | 2 | 4190 | 1.5 | 0.5 | NTCASCWE3104G | 104G |
| 100 000 | 5 | 4190 | 1.5 | 0.6 | NTCASCWE3104J | 104J |
| 150 000 | 5 | 4370 | 2.5 | 0.6 | NTCASCWE3154J | 154J |
| 470 000 | 5 | 4570 | 2 | 0.6 | NTCASCWE3474J | 474J |



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.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. 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.