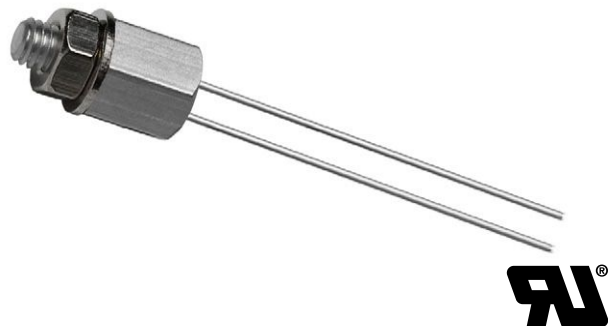


# NTC Thermistors, Screw Threaded Sensors



## 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](http://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/](http://www.vishay.com/thermistors/ntc-curve-list/)

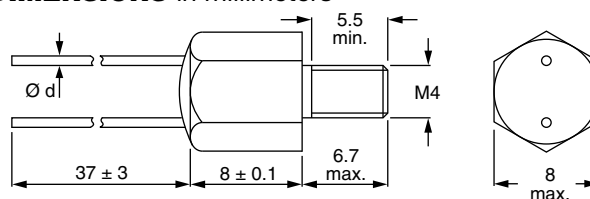
## MARKING

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                                             | ± 1, ± 2, ± 5  | %               |
| $B_{25/85}$ -value                                                       | 3528 to 4570   | K               |
| Tolerance on $B_{25/85}$ -value                                          | ± 0.5 to ± 2.5 | %               |
| Operating temperature range at:<br>Zero dissipation                      | -25 to +100    | °C              |
| Maximum power dissipation                                                | 0 to +55       |                 |
| Dissipation factor <sup>(1)</sup>                                        | ≈ 23           | mW/K            |
| Maximum power dissipation                                                | 500            | mW              |
| Thermal time constant <sup>(1)</sup>                                     | ≈ 7.5          | s               |
| Min. dielectric withstanding<br>voltage between terminals and<br>Al case | 1500           | V <sub>AC</sub> |
| Insulation resistance between<br>terminals and Al case                   | min. 100       | MΩ              |
| Weight                                                                   | ≈ 1.5          | g               |

### Notes

- Other  $R_{25}$ -values and tolerances are available upon request
- Insulated leads available upon request
- <sup>(1)</sup> Measured with screw mounted on an aluminum heatsink of 100 cm<sup>2</sup>, thickness 1.5 mm, in still air at  $T_{amb} = +25$  °C

| ELECTRICAL DATA AND ORDERING INFORMATION |                         |                    |                            |                            |                                     |              |
|------------------------------------------|-------------------------|--------------------|----------------------------|----------------------------|-------------------------------------|--------------|
| $R_{25}$<br>(Ω)                          | $R_{25}$ -TOL.<br>(± %) | $B_{25/85}$<br>(K) | $B_{25/85}$ -TOL.<br>(± %) | LEADS DIAMETER Ø d<br>(mm) | SAP MATERIAL AND<br>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         |



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