NTC Thermistors, Radial Lead, Accuracy Line

**FEATURES**
- Accurate over a wide temperature range (tolerance on B-value down to 0.5 %)
- Good stability over a long life
- Excellent price/performance ratio
- Low heat conductivity through 0.4 mm Ni-leads
- cULus recognized, file E148885 (UL category XGPU2/XGPU8)
- Mounting: radial
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

**APPLICATIONS**
- Temperature measurement, sensing and control in industrial, consumer and telecom applications. For on-board sensing or accurate remote sensing

**DESCRIPTION**
These thermistors are made of NTC ceramic material. The device consists of a chip with two tinned nickel leads. The parts are coated and color band marked. Tape and reel versions available on request.

**PACKAGING**
The thermistors are packed in cardboard boxes; the smallest packing quantity is 500 units.

**MARKING**
The thermistors are marked with color bands on a gray epoxy base coating; see Dimensions and "Electrical Data and Ordering Information".

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

**ELECTRICAL DATA AND ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>R25 (Ω)</th>
<th>R25-TOL. (± %)</th>
<th>B25/85 (K)</th>
<th>B25/85-TOL. (± %)</th>
<th>CODING (see dimensions)</th>
<th>UL APPROVED</th>
<th>SAP MATERIAL AND ORDERING NUMBER (1)</th>
<th>RoHS COMPLIANT WITH EXEMPTION (2)</th>
<th>RoHS COMPLIANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>1, 2, 3, 5</td>
<td>3528</td>
<td>0.5</td>
<td>Orange</td>
<td>Y</td>
<td>202*B0</td>
<td>202*B0A</td>
<td></td>
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<tr>
<td>2700</td>
<td>1, 2, 3, 5</td>
<td>3977</td>
<td>0.75</td>
<td>Red</td>
<td>Y</td>
<td>272*B0</td>
<td>272*B0A</td>
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<tr>
<td>4700</td>
<td>1, 2, 3, 5</td>
<td>3977</td>
<td>0.75</td>
<td>Green</td>
<td>Y</td>
<td>472*B0</td>
<td>472*B0A</td>
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<tr>
<td>5000</td>
<td>1, 2, 3, 5</td>
<td>3977</td>
<td>0.75</td>
<td>Black</td>
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<td>502*B0</td>
<td>502*B0A</td>
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<tr>
<td>10 000</td>
<td>1, 2, 3, 5</td>
<td>3977</td>
<td>0.75</td>
<td>Blue</td>
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<td>103*B0</td>
<td>103*B0A</td>
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<tr>
<td>12 000</td>
<td>1, 2, 3, 5</td>
<td>3740</td>
<td>2</td>
<td>Yellow</td>
<td>Y</td>
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<td>123*B0A</td>
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<td>22 000</td>
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<td>3740</td>
<td>2</td>
<td>White</td>
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<td>223*B0</td>
<td>223*B0A</td>
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<tr>
<td>47 000</td>
<td>1, 2, 3, 5</td>
<td>4090</td>
<td>1.5</td>
<td>Black</td>
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<td>473*B0</td>
<td>473*B0A</td>
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<tr>
<td>68 000</td>
<td>1, 2, 3, 5</td>
<td>4190</td>
<td>1.5</td>
<td>Grey</td>
<td>Y</td>
<td>683*B0</td>
<td>683*B0A</td>
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<tr>
<td>100 000</td>
<td>1, 2, 3, 5</td>
<td>4190</td>
<td>1.5</td>
<td>Brown</td>
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<td>104*B0A</td>
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<td>470 000</td>
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<td>4570</td>
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<td>Violet</td>
<td>N</td>
<td>474*B0</td>
<td>474*B0A</td>
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**Notes**

(1) Preferred versions for new designs
(2) 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

For technical questions, contact: nlr@vishay.com

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**DIMENSIONS** in millimeters

<table>
<thead>
<tr>
<th>B max.</th>
<th>T max.</th>
<th>H₁</th>
<th>H₂ max.</th>
<th>L</th>
<th>d</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6</td>
<td>3.0</td>
<td>2.0 ± 1.0</td>
<td>6.0</td>
<td>40 ± 1.5</td>
<td>0.4 ± 0.04</td>
<td>2.54</td>
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</tbody>
</table>

**DERATING**

![Power derating curve]

Note
- Zero power is considered as measuring power max. 1 % of max. power

**LONG TERM STABILITY AS A FUNCTION OF TEST DURATION AT MAXIMUM TEMPERATURE (150 °C)**

**TYPICAL $R_{25}$ STABILITY**

![Graph showing typical $R_{25}$ stability]

Typical curves valid for 2.2 kΩ to 10 kΩ

**TYPICAL ROOM TEMPERATURE STABILITY**

![Graph showing typical room temperature stability]

Typical curves valid for 2.2 kΩ to 10 kΩ
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**Vishay:**
- NTCLE203E3123JB0
- NTCLE203E3104HB0
- NTCLE203E3104FB0A
- NTCLE203E3474GB0
- NTCLE203E3474HB0
- NTCLE203E3104HB0A
- NTCLE203E3202HB0
- NTCLE203E3472HB0A
- NTCLE203E3472JB0A
- NTCLE203E3502GB0
- NTCLE203E3502GB0A
- NTCLE203E3502FB0A
- NTCLE203E3272HB0
- NTCLE203E3272TB0
- NTCLE203E3223GB0A
- NTCLE203E3223JB0A
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- NTCLE203E3472FB0A
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