

PCB2240, Pt Temperature Sensor according to DIN EN 60751

Temperature range -40 °C to +150 °C

- Pt chip mounted on a PCB board
- Easy connection to cables via solderable connection pads
- Quick & economical temperature probe assembly
- Connection pads on opposite surfaces; zero short-circuit risk
- High accuracy and interchangeability of a platinum sensor
- Available in large volumes

The PCB 2240 sensor consists of a Pt-RTD mounted on a small PCB board. Originally designed for the stringent precision and stability requirements of calorimetry applications, the board design simplifies the connection and assembly process in probe assemblies. The unique "heat break" conductive path reduces heat transport from the connection wires to the sensor, minimizing stem effect measurement error.

Nominal Resistance R_0 [Ω]	Tolerance Class	Order Number	Packaging
Pt500	F 0.3 (B)	30201069	Plastic box
Pt1000	F 0.3 (B)	30201067	Plastic box

Temperature Range of Tolerance Class

Validity of Class F 0.3 (B) -40 °C to +150 °C

Temperature Coefficient

TCR = 3850 ppm/K

Response Time

Water ($v = 0.4$ m/s):
 $t_{0.5} = 0.05$ s
 $t_{0.9} = 0.1$ s

Air ($v = 2$ m/s):
 $t_{0.5} = 1.5$ s
 $t_{0.9} = 5$ s

Measuring Current

Pt500 Ω : 0.1 to 0.7 mA
 Pt1000 Ω : 0.1 to 0.3 mA

Long-Term Stability

≤ 0.1 K after 1000 hours at 150 °C energized with:
 Pt 500: 0.7 mA
 Pt 1000: 0.3 mA

Self-Heating

0.15 K/mW in ice water

Track Resistance

Meander: 0.06 Ω

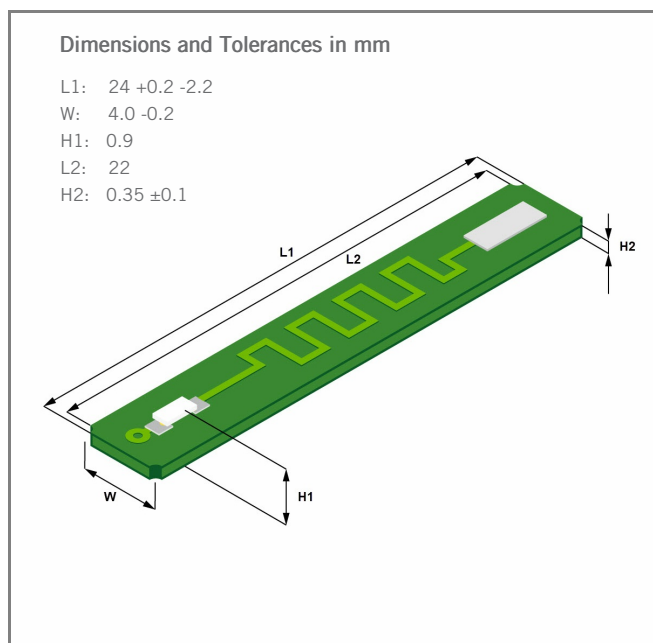


Image for illustration purposes only
 A second connection pad is placed on the backside

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Temperature range -40 °C to +150 °C

Temperature Change Resistance

≤ 0.1 K after 1000 change 0 °C/150 °C in air

Soldering Connection

Cu connection pad with chem. Sn surface

Connection Technology

Soft Soldering

- 1) Chip is soldered lead free
- 2) Connection pads are ready for lead free soldering

Packaging

Plastic box

Alternative packaging forms on request.

Storage Life

At least 12 months (after manufacture), when stored under the recommended conditions. Longer shelf life may be possible depending upon actual storage conditions, after requalification by customer.

Nitrogen atmosphere recommended.

Note

Other tolerances and values of resistance are available on request.

California Proposition 65



WARNING

WARNING: This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer.

For more information go to www.p65warnings.ca.gov



The information provided in this data sheet describes certain technical characteristics of the product, but shall not be qualified or construed as quality guarantee (Beschaffenheitsgarantie) in the meaning of sections 443 and 444 German Civil Code. The information provided in this data sheet regarding measurement values (including, but not limited to, response time, long-term stability, vibration and shock resistance, insulation resistance and self-heating) are average values that have been obtained under laboratory conditions in tests of large numbers of the product. Product results or measurements achieved by customer or any other person in any production, test, or other environment may vary depending on the specific conditions of use.

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