SMD 0603 ST, Pt Temperature Sensor according to DIN EN IEC 60751

Temperature range -50 °C to +150 °C

- Pt RTD in standard SMD format
- High accuracy and interchangeability of a platinum sensor
- Automated mounting via standard pick-and-place tools
- Blister reel packaging
- Available in large volumes

The SMD 0603 ST Pt elements come with the standard termination for SMD components without sideplating. This means the end-terminations are on the top, the bottom, and the end faces - excluding the side walls.
These elements are designed for automated assembly on printed circuit boards. The precision, accuracy, and interchangeability of a Pt RTD in an SMD package provide an ideal solution for board-mounted temperature sensing, board protection, and temperature compensation. Typical applications are HVAC, Consumer Electronics, Power Supplies, cost sensitive applications, medical and industrial systems. In principle, the product can also be used in automotive applications, in this case YAGEO Nexensos will check upon the request of the customer, whether additional requirements can be met (e.g. IMDS, PPAP).

Nominal Resistance R_0 [Ω]	Tolerance Class	Order Number	Packaging
Pt1000	F 0.3 (B)	5205180	Blister reel

Temperature Range of Tolerance Class

Validity of Class F 0.3 (B) -50 °C to +150 °C
Max. operating temperature depends on PCB material used

Temperature Coefficient

TCR = 3850 ppm/K

Response Time

Water (v = 0.3 m/s) $t_{0.5}$ = 0.025 s
$t_{0.9}$ = 0.065 s

Air (v = 3 m/s) $t_{0.5}$ = 0.85 s
$t_{0.9}$ = 2.8 s

(Measured on bare element)

Measuring Current

Pt1000 Ω: 0.1 to 1 mA
(self-heating has to be considered)

Long-Term Stability

The drift of the resistance value at 0 °C after a storage for 1000 hours in air at the declared upper temperature limit is not more than the tolerance value of the declared tolerance class according DIN EN IEC 60751.

Self-Heating

0.32 K/mW at Rt (measured on PCB-FR4)

Dimensions and Tolerances in mm

L1: 1.55 ±0.2
W: 0.8 ±0.2
H: 0.43 ±0.1
L2: 0.2 +0.2 -0.05

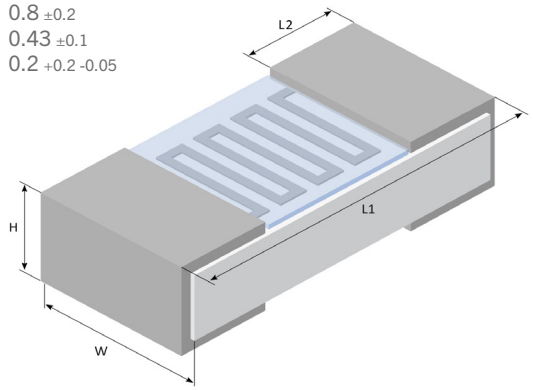


Image for illustration purposes only

Color, shape and forming of metallization may vary

Soldering Connection
End termination galvanic tin plated with Ni barrier layer

Connection Technology
Face up mounting: reflow soldering or wave soldering, e.g. double wave ≤ 8 s/235 °C

Packaging
Blister reel (4000 pcs/reel)
Alternative packaging forms on request

Storage Life
At least 24 months (after production), when stored in original VCI bags and under dry and clean conditions. Storage in Nitrogen atmosphere further reduces the risk of corrosion and can increase storage life beyond the given shelf-life.

MSL Class
MSL-1-unlimited

Note
Other tolerances and values of resistance are available on request.

California Proposition 65

⚠ WARNING

This product can expose you to chemicals including lead oxide, which is known to the State of California to cause cancer and birth defects or other reproductive harm, and including cobalt oxide, nickel and cobalt, which are known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov

Pb free

RoHS compliant

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. YAGEO Nexensos does not recommend the use of standard catalogue products or automotive grades for aerospace applications or manned space flight. The customer is solely responsible to determine whether the product is suited for the customer's intended use; in this respect YAGEO Nexensos cannot assume any liability. The sale of any products by YAGEO Nexensos is exclusively subject to the General Terms of Sale and Delivery of YAGEO Nexensos in their current version at the time of purchase, which is available under www.yageogroup.com /SalesResources/ResourceLibrary or may be furnished upon request. This data sheet is subject to changes without prior notice.

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