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

Temperature range -50 °C to +130 °C (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

SMD 0603 Pt RTD elements are designed for automated assembly on printed circuit boards. The precision, accuracy and interchangeability of a Pt RTD in an SMD package provides an ideal solution for board-mounted temperature sensing, board protection, and temperature compensation. Application areas include HVAC, automobiles, e-mobility, and medical and industrial equipment.
In principle, the products 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) F 0.6 (2B)	32207638 32207637	Blister reel Blister reel

Temperature Range of Tolerance Class

Validity of Class F 0.3 (B)	-50 °C to +130 °C
Validity of Class F 0.6 (2B)	-50 °C to +130 °C

*(With the use of expansion-matched circuit board materials temperatures up to +150 °C are possible)

Temperature Coefficient

TCR = 3850 ppm/K

Response Time

Water (v = 0.4 m/s):	t0.5 = 0.1 s
	t0.9 = 0.25 s
Air (v = 2 m/s):	t0.5 = 2.5 s
	t0.9 = 8 s

Measuring Current

Pt1000 Ω: 0.1 to 0.3 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.
Typical drift of R(0 °C) is 0.06 % after 250 hours at +150 °C.

Self-Heating

0.8 K/mW at 0 °C

Dimensions and Tolerances in mm

L1: 1.7 ±0.2
W: 0.9 ±0.2
H: 0.45 ±0.1
L2: 0.3 ±0.2

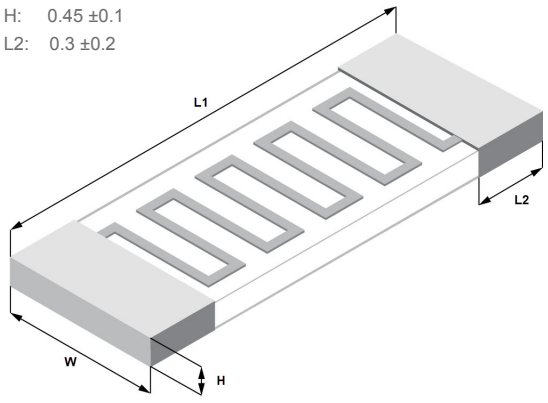

Image for illustration purposes only
Color, shape and forming of metallization may vary

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

Temperature range -50 °C to +130 °C (150 °C*)

Types
Pt 1000 SMD 0603
Pt 1000 SMD 0805
Pt 1000 SMD 1206

Soldering Conditions
Limit profiles: High and Low
Atmosphere: Nitrogen and air

Mounting
Layout of the circuit board: Benchmarker II (Material FR4 35µm Cu, size 190.5 x 127 x 1.5mm)

Circuit board surfaces: chem. Ag, Cu OSP, NiAu, chem. Sn
Soldering paste: F640 SA30C5-89 M30
(Material SnAgCu 96.5/3.0/0.5)

		Peak (max. temperature)		Time over 217 °C in sec.	
Total Troughput Time		High [Total throughput time 520 sec]	Low [Total throughput time 280 sec]	High [Total throughput time 520 sec]	Low [Total throughput time 280 sec]
Sensor position on circuit board	Center	+237 °C	+245 °C	60	92
	Mass	+231 °C	+238 °C	49	68
	Mix	+238 °C	+248 °C	65	103

Result
All tested samples showed a sufficient wetting under the described profiles High and Low, based on a visual soldering point inspection. All given data should not be constructed as guaranteeing specific properties of the product or its suitability for a specific particular application. The data are an extract from a test report with status from July 2010.

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

Temperature range -50 °C to +130 °C (150 °C*)

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
"Face-up" 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 for corrosion and can increase storage life beyond the given shelf-life.

Note
Other tolerances and values of resistance are available on request

California Proposition 65

WARNING

WARNING: This product can expose you to chemicals including nickel, which is known to the State of California to cause cancer.
For more information go to www.p65warnings.ca.gov

RoHS compliant

YAGEO Nexensos GmbH, Reinhard-Heraeus-Ring 23, 63801 Kleinostheim, Germany

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

YAGEO Nexensos:

32207637 32207638