SMD 1206 SC Sinter, Pt Temperature Sensor according to DIN EN 60751

Temperature range -50 °C to +200 °C, designed for sintering

- Excellent thermal coupling and quick response time via soldering connections
- Optimized long-term stability and high precision over entire operating life
- Electrically isolated bottom surface enables mounting on or near heat-generating components
- Maximum operating temperature exceeding 200 °C
- Contacts optimized for state-of-the-art bonding solutions

The SMD 1206 SC is designed for mounting to power electronic boards via silver sintering. The precision, low drift and long-term stability of a Pt RTD is delivered in an economical package. The isolation provided by the top-mounted terminations enables positioning of the chip anywhere on the board. Mounting in proximity to the heat source/die increases measurement accuracy and faciliates more compact designs.

Nominal Resistance R_0 [Ω]	Tolerance Class	Order Number	Packaging
Pt1000	F 0.6 (2B)	5033344	Wafer Frame

Temperature Range of Tolerance Class

Validity of Class F 0.6 (2B) -50 °C to +200 °C
The specified tolerance classes refer to continuous operation.

Temperature Coefficient

TCR = 3850 ppm/K

Measuring Current

Pt1000 Ω: 0.1 to 0.3 mA
(self-heating has to be considered)

Long-Term Stability

Max. R_0 - drift ≤ 0.23 % after the following, independently performed standard tests:

- 1000 hours at +200 °C, ≥ 0.1 mA
- 1000 hours at +85 °C , 85 % Hrel.
- 1000 cycles at -40 °C/ +150 °C

Self-Heating

< 0.4 K/mW (not assembled)

Insulation Resistance

> 1000 MΩ at 20 °C

Topside Metallization

Bonding: AgPt surface in thick film technology for thick wire ultrasonic bonding process.
Recommendation: Heraeus Al H11 thick wires (Ø 300 µm).
All tests were performed with recommended wire

Backside Metallization

Sintering: AgPd surface in thick film technology for silver sintering process.
Recommendation: Heraeus sinter paste (ASP 338 and 043 series)
All tests were performed with recommended paste

Dimensions and Tolerances in mm

L1: 3.1 ±0.15
W: 1.5 ±0.15
H: 0.55 ±0.15
L2: (0.79)

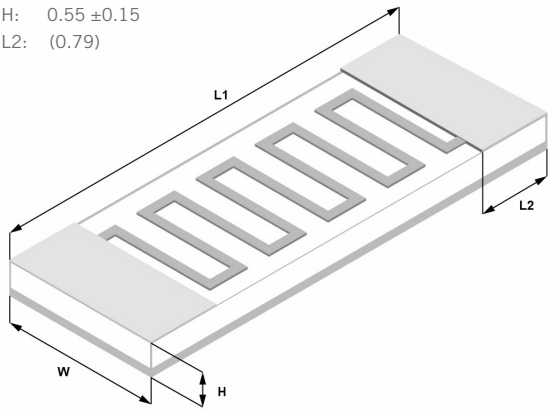

Image for illustration purposes only
Color, shape and forming of metallization may vary

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Connection Technology
Suitable for sintering on backside, for optimized heat transfer and on topside for ultrasonic wire bonding

Shear Test Backside
Sintering
> 10 N/mm^2 (single value)
> 20 N/mm^2 (mean value)

Pull Test Topside
Bonding
> 210 cN (equals 75 % wire load limit of Al H11 thick wires ø =300 µm)

Dielectric Strength
7.5 kV
Based on theoretical material substrate properties and given sensor geometry. Processing during assembly, employed potting material and potting meniscus can reduce the dielectric strength in the application.

Packaging
Wafer Frame
Substrate on wafer frame in (aluminized vaccum) plastic bag

Storage Life
In unopened original packing (minimum half a year)

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