

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

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

- Excellent thermal coupling and quick response time via sinter technology
- 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 facilitates more compact designs.

Nominal Resistance $R_0$ [ $\Omega$ ]	Tolerance Class	Order Number	Packaging
Pt1000	F 0.6 (2B)	5164075 / 5195006	Wafer Frame / Blister reel

### 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  $\Omega$ : 0.1 to 0.3 mA

(self-heating has to be considered)

### Long-Term Stability

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

- 1000 hours at +200 °C,  $\geq$  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 M $\Omega$  at 20 °C

### Topside Metallization

Bonding: AgPt surface in thick film technology for thick wire ultrasonic bonding process.

Recommendation: Heraeus Al H11 thick wires ( $\varnothing$  300  $\mu$ m).

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)

Web: www.yageo-nexensos.com

All tests were performed with recommended paste

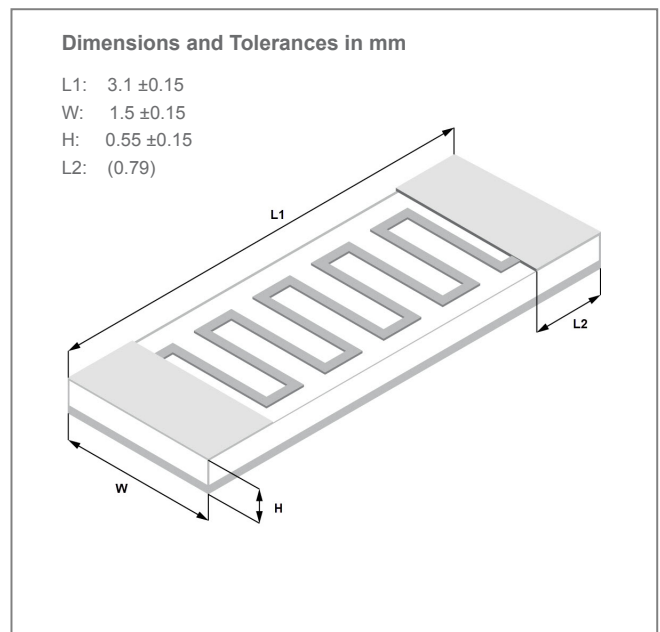


Image for illustration purposes only  
Color, shape and forming of metallization may vary

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### Connection Technology

Suitable for sintering on backside, for optimized heat transfer and on top side for ultrasonic wire bonding

### Shear Test Backside

Sintering

> 10 N/mm<sup>2</sup> (minimum value)

> 20 N/mm<sup>2</sup> (mean value)

### Pull Test Topside

Bonding - 210 cN (equals 75 % wire load limit of Al H11 thick wires  $\varnothing = 300 \mu\text{m}$ )

### 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

Blister reel, Wafer Frame

Substrate on wafer frame in (aluminized vacuum) plastic bag.

Blister reel width: 8; Cavity (LxWxD): 3.55x1.95x0.8; Step size: 4  $\varnothing$ 1.5

"Face-up" max. 4200 pcs / reel

### Storage Life

Wafer frame: In unopened original packing (minimum half a year)

Blister reel: tbd

### Note

Other tolerances and values of resistance are available on request.

\*\*"Face-up", approx. 4200pcs/reel (lower quantities down to 250pcs /reel in single cases possible). Leading and trailing of belt process related can be stuck on. Further information regarding packaging forms please find here: <https://yageo-nexensos.com/packaging>

### 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](http://www.p65warnings.ca.gov)



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