



SMD 1206 sinterable, Pt Temperature Sensor according to DIN EN 60751

Temperature range -50 °C to +200 °C

Power electronics represent the main application focus of the sinterable temperature sensor. Mass production, precision, long-term stability and low costs were in the foreground of its design. The design allows a potential free positioning direct to the heat source/die. The topside metallization is adapted for thick wire bonding and the backside is designed for silver sinter processes with and without pressure. Both sides (metallization) are electrically isolated from each other.

Nominal Resistance R ₀	Tolerance	Order Number
	DIN EN 60751 2009-07	Wafer frame
1000 Ohm at 0 °C	F 0,6 (Class 2B)	50 333 44

Temperature and tolerance range

-50 °C to +200 °C (continuous operation)
Tolerance Class F 0,6 (2B): -50 °C to +200 °C

Temperature coefficient

TCR = 3850 ppm/K

Measuring current

1000 Ω: 0.1 to 0.3 mA
(self-heating has to be considered)

Long-term stability

Max. R₀-Drift ≤ 0.23 % after:
1000 hours at +200 °C, 0.3 mA
1000 hours at +85 °C, 85 % H_{rel.}
1000 cycles at +150 °C/ -40 °C

Self-heating

0.4 K/mW at 0 °C (unassembled)

Isolation resistance

> 1000 MΩ at 20 °C

Top side metallization (Bonding)

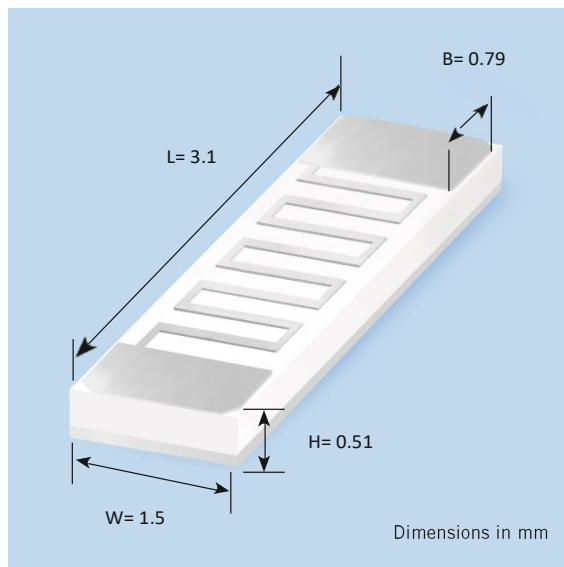
AgPt-Metal-coated in thick film technology for Heraeus
Al H11 thick wires (ø 300 μm)

Back side metallization (Sintering)

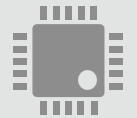
AgPd-Metal-coated in thick film technology for Heraeus
Sinter paste (ASP 338 and 043 series)

Connection technology

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



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. The customer is solely responsible to determine whether the product is suited for the customer's intended use; in this respect Heraeus cannot assume any liability. The sale of any products by Heraeus is exclusively subject to the General Terms of Sale and Delivery of Heraeus in their current version at the time of purchase, which is available under www.heraeus.com/gtc or may be furnished upon request. This data sheet is subject to changes without prior notice.
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Temperature range -50 °C to +200 °C

Shear Test backside/sinter

>10 N/mm²

Pull Test topside / bonding

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

Packaging

On wafer frame in aluminized vacuum bag

Storage life

In unopened in original packing (minimum half a year)

Note

Other tolerances and values of resistance are available on request.

California Proposition 65



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.



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