

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. Both sides (metallization) are electrically isolated from each other.

Nominal Resistance R_0	Tolerance	Order Number	Packaging
1000 Ohm at 0 °C	F 0.6 (Class 2B)	51 00 386	1 substrate on wafer frame in plastic bag
1000 Ohm at 0 °C	F 0.6 (Class 2B)	50 333 44	4 substrates on wafer frame in plastic bag

Temperature and tolerance range

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

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. R_0 -Drift \leq 0.23 % after each:
1000 hours at +200 °C, \geq 0.1 mA
1000 hours at +85 °C, 85 % Hrel.
1000 cycles at +150 °C/ -40 °C

Self-heating

< 0.4 K/mW (unassembled)

Isolation resistance

> 1000 MΩ at 20 °C

Top side metallization (Bonding)

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

Recommendation:

Heraeus Al H11 thick wires (\varnothing 300 μm)

All tests were done with recommended wire (see above).

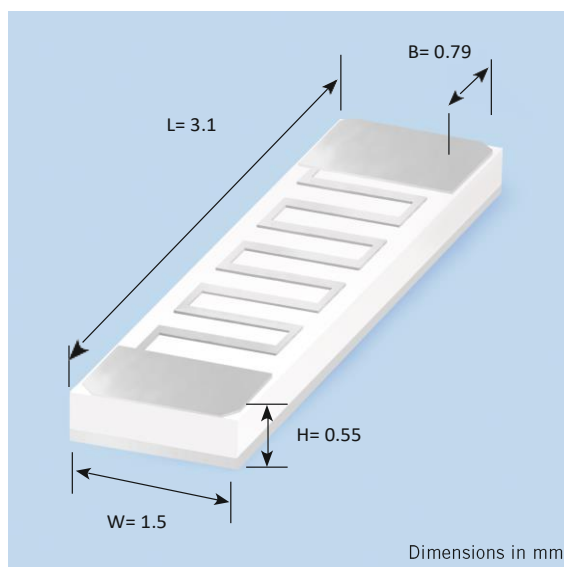
Back side metallization (Sintering)

AgPd surface in thick film technology for silver sintering process.

Recommendation:

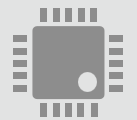
Heraeus sinter paste (ASP 338 and 043 series)

All tests were done with recommended paste (see above).



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Temperature range -50 °C to +200 °C

Connection technology

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

Shear Test backside/sinter

- > 10 N/mm² (single value)
- > 20 N/mm² (mean value)

Pull Test topside / bonding

- > 210 cN (equals 75 % wire load limit of Al H11 thick wires (Ø = 300 µm))

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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