SMD-FC 0805, Platinum Temperature Sensor according to DIN EN 60751

Temperature range -50 °C to +170 °C

The main application emphasis of the SMD-FC 0805 is hybrid circuits. Mass production, precision, long-term stability and low costs are also key themes of the design. The contact surfaces are on the side with the active measuring layer – no edge metallizing; i. e. the sensor is designed for face-down mounting, to take into account current trends in the adhesion instead of soldering electronics sector. Using conductive adhesives provides reliable and cost-effective connection technology, an alternative to the conventional application opportunities, such as reflow or wave soldering. An important advantage for users: the substrate material of the sensor (ceramic) shows a similar thermal expansion to that of the hybrid circuit.

The products are typically used in energy management, medical and industrial equipment. In principle, the products can also be used in automotive applications; in this case Heraeus will check upon the request of the customer, whether additional requirements can be met (e.g. IMDS, PPAP).

Nominal Resistance R_0	Tolerance	Order Number	Packaging
100 Ohm at 0 °C	F 0.3 (Class B) F 0.6 (Class 2B)	32 208 594 32 208 595	Blister reel “Face-down” 4000 pcs/ reel
1000 Ohm at 0 °C	F 0.3 (Class B) F 0.6 (Class 2B)	32 208 569 32 208 570	Blister reel “Face-down” 4000 pcs/ reel

Temperature and tolerance range

Tolerance Class F 0.3 (B): -50 °C to +170 °C
Tolerance Class F 0.6 (2B): -50 °C to +170 °C
By coordinating materials, design and connection technology applications are possible up to +250 °C

Temperature coefficient

TCR = 3850 ppm/K

Response time

Water current (v= 0.4m/s): t0.5 = 0.10 s
t0.9 = 0.25 s
Air stream (v= 2m/s): t0.5 = 2.50 s
t0.9 = 8.00 s

Measuring current

100 Ω: 0.3 to 1.0 mA
1000 Ω: 0.1 to 0.3 mA
(self-heating has to be considered)

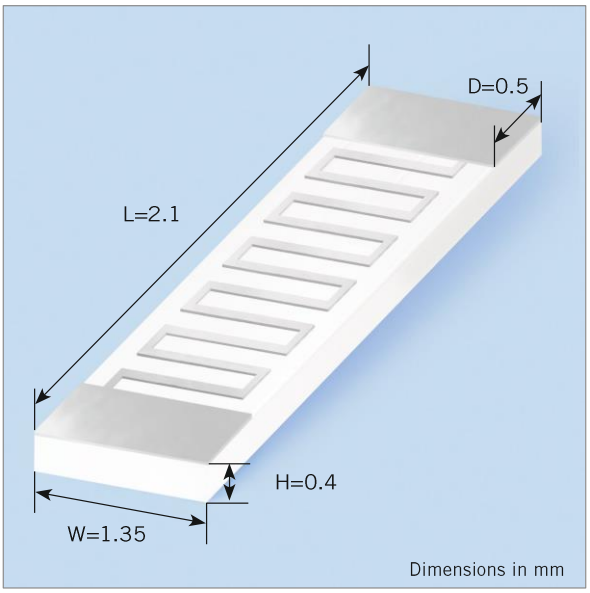

Image for illustration purposes only

Long-term stability

R_0-Drift 0.06 % after 1000 hours at +170 °C

Self-heating

0.8 K/mW at 0 °C

Contact

AgPt metallizing in thick-film technology

RoHS konform

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Temperature range -50 °C to +170 °C

Connection technology

Reflow soldering or wave soldering, e. g. double wave soldering ≤ 8 s / +235 °C.
Also, can be mounted using SMD insertion machines with Ag conductive adhesive. When mounting PCB circuits, the expansion relationship of the sensor and the substrate material must be taken into account.

Packaging

Alternative packaging forms on request.

Storage life

At least 9 months (after manufacture), when stored under the recommended conditions. Longer shelf life may be possible, depending upon actual storage conditions, after requalification by customer.
Nitrogen atmosphere recommended

Note

Other tolerances, values of resistance are available on request.

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