



## High precision for maximum reliable performance

### Platinum Temperature Sensors in standard SMD packages

Pt-RTDs in standard SMD packages combine the advantages of Pt based RTDs, such as a linear, standardized signal characteristic, high accuracy and long-term stability, with the standardized electronic SMD format for surface mounting. The sensors enable reliable and precise temperature measurement over a wide temperature range, with the additional benefits of competitive cost and automated mounting capability on printed circuit boards.

Our standard SMD elements are conform to DIN EN / IEC 60751.

Heraeus also offers Pt1000 SMD 0603, SMD 0805 and SMD 1206 sensors that meet the requirements of AEC-Q200.

For automotive and e-mobility applications, Heraeus may consider customer requests regarding whether or what additional documentation (e.g. PPAP, IMDS) may be provided.

#### Main application areas

##### 1. Temperature sensing in

- Heat and cold meters
- HVAC applications
- Smart home controls
- Home appliances and equipment
- Electronics
- Medical equipment
- Data loggers
- EV charging connectors
- Battery packs
- Other

##### 2. Temperature and drift compensation in sensors and transmitters

##### 3. Protection of electronic boards

Technical Parameters	
Tolerance	F 0.3 / F 0.6
Temperature Coefficient	TCR = 3850 ppm/K
Nominal Resistance $R_0$ [ $\Omega$ ]	Pt100, Pt1000
Measuring Current	100 $\Omega$ : 0.3 to 1.0 mA 1000 $\Omega$ : 0.1 to 0.3 mA

Passed Reliability Tests*	Conditions
High Temperature Storage	t = 500 hours (+125 °C)
Operational Life	t = 1000 hours (+125 °C)
Temperature Cycling	1000 cycles @ -55 °C / +125 °C
Humidity (unbiased)	RH = 85 % t = 1000 hours (+85 °C)

\*for AEC-Q200

### Key Benefits:

- Standardized and linear signal characteristics
- Precise measurement over a wide temperature range
- High accuracy
- Long lifetime
- Low signal drift
- High humidity resistance
- Supports pick- and place mounting
- Small footprint
- High volume availability
- Cost efficient



Comparison	SMD	SMD-FC
Design		
Temperature Range	-50 °C to +130 °C (up to +150 °C possible)	-50 °C to +170 °C (up to +250 °C possible)
Available Sizes	0603, 0805, 1206	0805
Connection Technology	Soft soldering	Soft soldering, bonding
Metallization	5-sided end metallization	AgPt topside metallization
Feature	Parts develop a solder meniscus during the soldering process, allowing automatic optical quality inspection (AOI) during the mounting process.	Part back side is electrically isolated. Higher operating temperatures are supported with adapted connection technology (e.g. epoxy conductive adhesive).

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