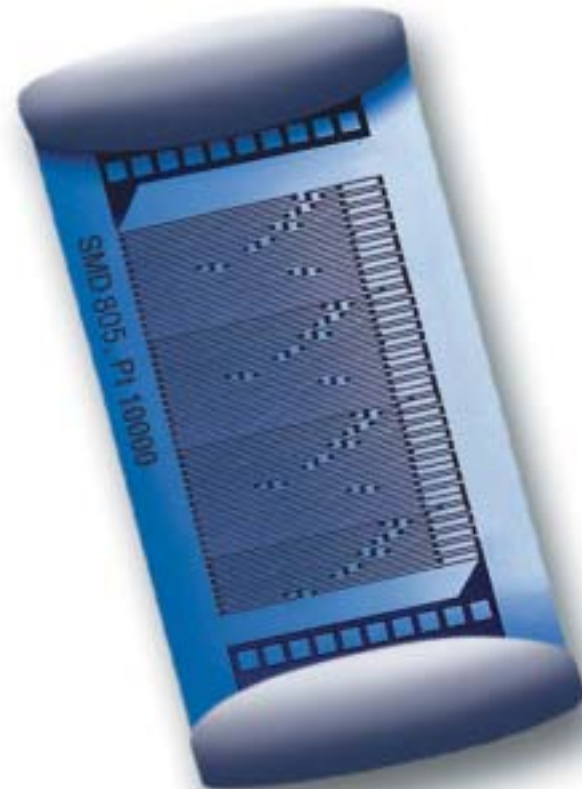


# Sensor Elements

In addition to long-term stability, interchangeability and accuracy, elementary sensors are particularly characterized by a small size footprint of only a few square millimeters. Their application range, however, is extremely high: it ranges from -196°C to +1000°C!

To increase the ease of use in mass-production applications, Heraeus Sensor Technology has enhanced the capabilities of its elementary sensors. DBS sensors, for example, are equipped with rectangular connecting tapes that offer superior directional stability when compared to round wires. The DBS sensors, which are available in several different standard wire lengths, can eliminate the need for expensive extension leads.

Ideas developed by Heraeus Sensor Technology likewise simplified the further processing of SMD sensors. The FC-type SMD sensor, for example, which has no edge metallization, can be die-bonded on PCBs instead of soldered, saving time and costs for automated manufacturing processes.



Sensor type SMD 10 kΩ, drawn to larger scale

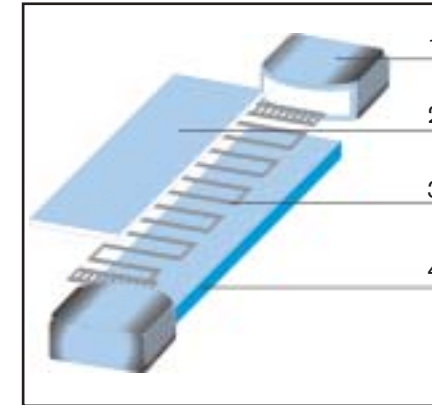


# Heraeus

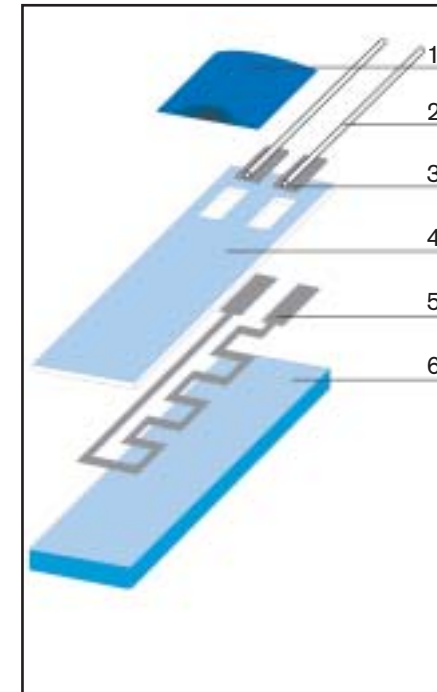


## Design

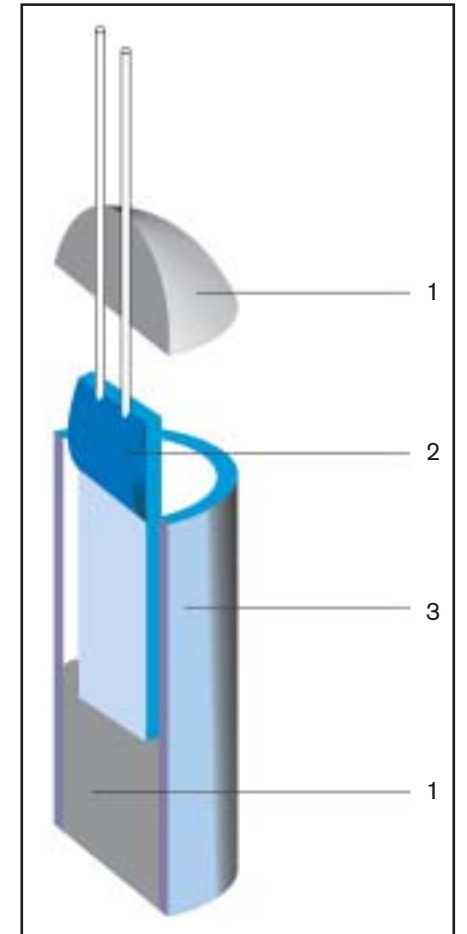
Platinum temperature measuring resistors consist of a sealed, structured platinum thin-film layer deposited on a ceramic substrate. Production takes place under clean room conditions with methods derived from the semiconductor industry, such as physical layer generation (vaporization or sputtering), photolithographic structuring and laser trimming. Stringent manufacturing and quality management methods guarantee Heraeus Sensor Technology a leading position in the field of thin-film platinum temperature sensors.



1. Edge metallizing
2. Cover with glass layers
3. Photolithographically structured platinum thin-film layer
4. Al<sub>2</sub>O<sub>3</sub> substrate



1. Strain relief device and insulation
2. Connection wires
3. Connection pads
4. Cover with glass layers
5. Photolithographically structured platinum thin-film layer
6. Al<sub>2</sub>O<sub>3</sub> substrate



1. Ceramic sealing
2. Platinum thin-film sensor
3. Ceramic sleeve

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