

## Platinum Resistance Temperature Detector

## PCB 2225/ 2240 (0805)

This platinum temperature sensor on a printed circuit board has been specially designed for use in calorimetry. When designing these sensors, the stringent requirements of this sector with regard to precision, long-term stability, cost minimisation as well as the option for fully automatic further processing were of prime concern.

The temperature sensor in an SMD model forms the measurement active element on a PCB. The chip is connected with the terminal faces via meandering circuit board conductors in order to reduce heat dissipation and to prevent corruption of the measuring results. As a cable set sensor, it is suitable for a wide range of applications within a temperature range of 0°C to 150°C.

Nominal Resistance $R_0$	Tolerance DIN EN 60751 1996-07	Tolerance DIN EN 60751 2009-05	Ordner No.	Dimensions in mm		FC Type
				L +2.2 -0.2	B -0.2	
100	Class B	F 0.3	30 201 075	22	2,5	0805
500			30 201 073	22	2,5	0805
1000			30 201 063	22	2,5	0805
100			30 201 071	22	4,0	0805
500			30 201 069	22	4,0	0805
1000			30 201 067	22	4,0	0805

<b>Specification</b>	DIN EN 60751	
<b>Tolerance classes</b>	Class B	
<b>Temperature range</b>	0°C to 150°C	
<b>Temperature coefficient</b>	TC = 3850 ppm/K	
<b>Long-term stability</b>	≤ 0.1 K after 1000 h at 150°C (energized with Pt 100: 1.0mA; Pt 500: 0.7mA; Pt 1000: 0.3mA)	
<b>Measuring current</b>	100Ω: 0.3 to 1.0mA 500Ω: 0.1 to 0.7mA 1000Ω: 0.1 to 0.3mA (self heating has to be considered)	
<b>Self-heating</b>	0.15 K/mW in ice water	
<b>Track Resistance</b>	Meander: 0.06Ω	
<b>Temperature change resistance</b>	≤ 0.1 K after 1000 change 0°C/150°C in air	
<b>Contact</b>	Cu connection pad with chem. Sn surface	
<b>Soldering</b>	1) Chip is soldered lead free 2) Connection pads are ready for lead free soldering	
<b>Ambient conditions</b>	Use unprotected only in dry environments	
<b>Response time</b>	water (v= 0.4m/s): $t_{0,5} = 0.05s$ $t_{0,9} = 0.10s$ air (v=2m/s): $t_{0,5} = 1.5s$ $t_{0,9} = 5.0s$	
<b>Packaging</b>	Supplied in plastic container	
<b>Storage life</b>	12 months	
<b>Note</b>	Other tolerances and values of resistance are available on request.	



We reserve the right to make alterations and technical data printed. All technical data serves as a guideline and does not guarantee particular properties to any products.

### Heraeus Sensor Technology USA

1901 Route 130  
North Brunswick, NJ 08902  
Phone 732-940-4400 Fax 732-940-4445  
Email info.hst-us@heraeus.com  
http://heraeus-sensor-technology-us.com