

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

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



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