

## PCB 2225 / 2240 (0805), Platinum Temperature Sensor according to DIN EN 60751 Temperature range -40 °C to +150 °C

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 minimization as well as the option for fully automatic further processing were of prime concern. The temperature sensor in an SMD-FC 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 -40 °C to 150 °C.

Nominal Resistance $R_0$	Tolerance	Order Number	Type / Packaging
100 Ohm at 0 °C 1000 Ohm at 0 °C	F 0.3 (Class B)	30 201 075 30 201 063	PCB 2225 / Plastic box
500 Ohm at 0 °C 1000 Ohm at 0 °C	F 0.3 (Class B)	30 201 069 30 201 067	PCB 2240 / Plastic box

### Temperature and tolerance range

Tolerance class F 0.3 (B): -40 °C to +150 °C

### Temperature coefficient

TCR = 3850 ppm/K

### Response time

Water current ( $v= 0,4\text{m/s}$ ):  
 $t_{0.5} = 0.05 \text{ s}$   
 $t_{0.9} = 0.1 \text{ s}$

Air stream ( $v= 2\text{m/s}$ ):  
 $t_{0.5} = 1.5 \text{ s}$   
 $t_{0.9} = 5.0 \text{ s}$

### Measuring current

100  $\Omega$ : 0.3 to 1.0 mA  
 500  $\Omega$ : 0.1 to 0.7 mA  
 1000  $\Omega$ : 0.1 to 0.3 mA

### Long-term stability

$\leq 0,1 \text{ K}$  after 1000 hours at 150 °C energized with:  
 Pt 100: 1.0 mA  
 Pt 500: 0.7 mA

Pt 1000: 0.3 mA

### Self-heating

0.15 K/mW in ice water

### Track resistance

Meander: 0.06  $\Omega$

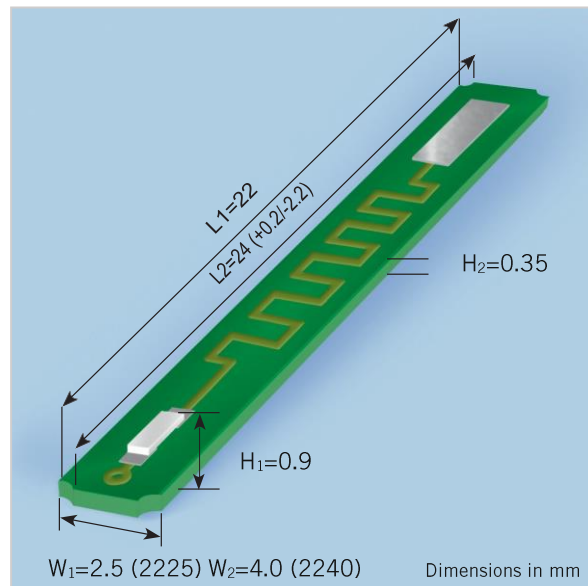


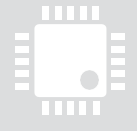
Image for illustration purposes only



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### Temperature change resistance

≤ 0.1 K after 1000 change 0 °C / 150 °C in air

### Contacting

Cu connection pad with chem. Sn surface

### Connection technology

Suitable for soft soldering

- 1) Chip is soldered lead free
- 2) Connection pads are ready for lead free soldering

### Packaging

Alternative packaging forms on request.

### Storage life

At least 12 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

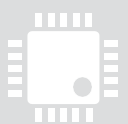
Other tolerances and values of resistance are available on request.

### California Proposition 65



#### WARNING:

This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



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