



Platinum Temperature Sensors

3U – Product Series

Temperature Range: –200°C...+300°C

Platinum temperature sensor elements with inverse wire connections

- Advantages:**
- Better isolation against mounting area
 - Vertical wires can be carried away on chip area
 - Perfect for limited space packaging

Technical Data

Specification:	DIN EN 60751	
Temperature range:	-200°C to +300°C	
Temperature Coefficient:	TCR = 3850 ppm/K	
Tolerance Classes:	F 0.1 (Class Y)	-50°C to +150°C
	F 0.15 (Class A)	-90°C to +300°C
	F 0.3 (Class B)	-200°C to +300°C
	F 0.6 (Class C)	-200°C to +300°C
	1/5 F 0.3 (Class K)	on request
	1/10 F 0.3 (Class K)	on request
Leads:	Ni/Au wire, 0.2 x 0.4 mm (H x W) Recommended connection technology: Soldering, Welding, Crimping	
Lead Lengths:	7/10 mm	
Long-term stability:	Max. Drift = Less than 0.03% after 1000h at max. operating temperature	
Note:	Other connection lengths and chip sizes on request	



INNOVATIVE SENSOR TECHNOLOGY

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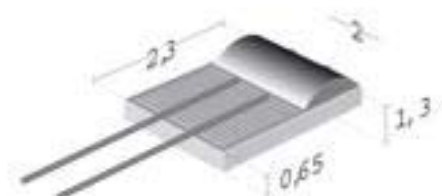
3U 161

Chip Dimensions, L x W:	1.6 x 1.2 mm	
Nominal Resistance at 0°C (ohm) :	1000	
Self Heating (mK):	Water (v= 0 m/s) Air (v= 0 m/s)	$\Delta T_w = 8.3$ at 0°C $\Delta T_a = 56$ at 0°C
Response Time (s):	Water (v= 0.4 m/s) Air (v= 1 m/s)	$T_{0.5} = 0.05$ $T_{0.63} = 0.08$ $T_{0.9} = 0.18$ $T_{0.5} = 1$ $T_{0.63} = 1.2$ $T_{0.9} = 2.5$
Measuring Current (mA):	1000 Ω : 0.3	



3U 232

Dimensions, LxW:	2.3 x 2.0 mm	
Nominal Resistance at 0°C (ohm):	1000	
Self Heating (mK):	Water (v= 0 m/s) Air (v= 0 m/s)	$\Delta T_w = 2.5$ at 0°C $\Delta T_a = 25$ at 0°C
Response Time (s):	Water (v= 0.4 m/s) Air (v= 1 m/s)	$T_{0.5} = 0.09$ $T_{0.63} = 0.12$ $T_{0.9} = 0.33$ $T_{0.5} = 2.7$ $T_{0.63} = 3.6$ $T_{0.9} = 7.5$
Measuring Current (mA):	1000 Ω : 0.3	



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Order Example:

<i>P</i>	<i>1K0.</i>	<i>232.</i>	<i>2</i>	<i>I.</i>	<i>B.</i>	<i>100.</i>	<i>U</i>
1	2	3	4	5	6	7	8

1. Material Identification = Platinum temperature sensor
2. Resistance Value in ohm = $1000\Omega / 0^\circ\text{C}$
3. Chip Dimension = $2.3 \times 2.0 \text{ mm}$
4. Temperature Range = -200°C to $+300^\circ\text{C}$
5. Extension = Flat Wire
6. Tolerance Class = DIN EN 60751 F 0.3 (former Class B)
7. Connection length = 100 mm
8. Special = Inverted Welding



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