

## Platinum Resistance Temperature Detector

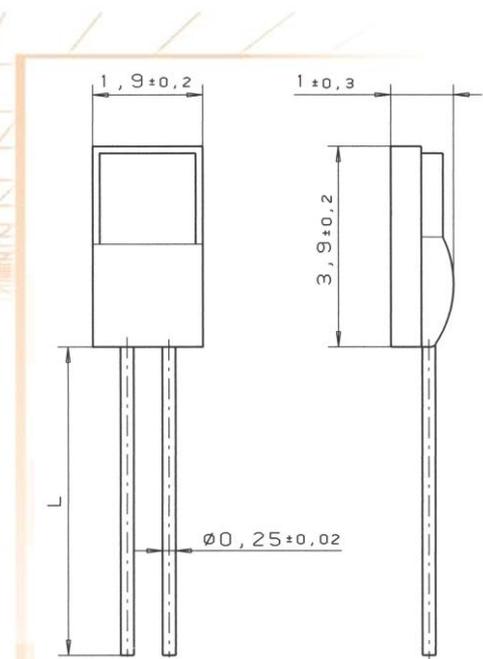
## HEA 420

HEA 420 platinum temperature sensors are characterized by long-term stability, precision over a broad temperature range and compatibility. Main application areas are within the automotive industry. For measuring high temperatures you should use a sensor, which reliably works in rough environments, has a long expectancy of life and ideally comes up with the space-saving concepts of the automotive industry.

Nominal Resistance $R_0$	HST-Tolerance	Order No. Blister box
200 Ohm at 0°C	$\pm 4.5$ K at 0°C $\pm 7.5$ K at 500°C $\pm 15$ K at 1000°C	32 208 674

The measuring point for the nominal resistance is defined at 6 mm from the end of the sensor body.

<b>Specification</b>	HST (Heraeus Sensor Technology)	
<b>Temperature Range</b>	-70°C up to +1000°C	
<b>Temperature coefficient</b>	TC = 3770 ppm/K	
<b>Leads</b>	Pt- wire	
<b>Lead lengths (L)</b>	3,8mm $\pm 0,5$ mm	
<b>Short-term tests</b>	50h at 1000°C 2mA, $\Delta RO$ typical < 4,5K	
<b>Long-term tests</b>	500h at 950°C 2mA, $\Delta RO$ typical < 3K	
<b>Vibration resistance</b>	at least 40g acceleration at 10 to 2000 Hz, depends on installation	
<b>Shock resistance</b>	at least 100g acceleration with 8ms half sine wave, depends on installation	
<b>Environmental conditions</b>	Unhoused for dry environment only, Up to 650°C in housings also as MI-type possible, above 650°C no reducing atmosphere, free air admission necessary	
<b>Insulation resistance</b>	>100 M $\Omega$ at 20°C	
<b>Self heating</b>	0.2 K/mW at 0°C	
<b>Response time</b>	Water current (v= 0.4m/s):	$t_{0.5} = 0.05$ s $t_{0.9} = 0.17$ s
	Air stream (v= 2m/s):	$t_{0.5} = 3.3$ s $t_{0.9} = 13.0$ s
<b>Measuring current</b>	20°C max. 5mA; 1000°C max. 2.7mA (self heating has to be considered)	
<b>Note</b>	Other tolerances, values of resistance and wire lengths are available on request.	
<b>Status</b>	Prototypes for testing purposes only	



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