

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## **Platinum Resistance Temperature Detector**

SMD 1206 (V)

The PRTD SMD 1206 is designed for automatic mounting in large volume applications on printed circuit boards where long time stability, interchangeability combined with low costs are important.

Nominal Resistance R0	<b>Tolerance</b> DIN EN 60751 1996-07	<b>Tolerance</b> DIN EN 60751 2009-05	Order Number
100 Ohm at 0℃	Class B	F 0.3	32 207 590
	Class 2B	F 0.6	32 207 589
1000 Ohm at 0℃	Class B	F 0.3	32 207 595
	Class 2B	F 0.6	32 207 594

**Specification** DIN EN 60751 (according to IEC 751)

Temperature range -50°C to +130°C (Possible working

temperatures using volume expansion aligned conductor board material: 150℃) Tolerance Class B or 2B: -50℃ up to +130℃

Temperature coefficient TCR = 3850 ppm/K

Soldering connection End-termination galvanic tin plated

with Ni-barrier layer

Long term stability max. R₀-drift 0.06% after 1000 h at 130°C

Environmental conditions unhoused for dry environments only

Insulation resistance > 100 M $\Omega$  at 20°C;

> 2 MΩ at 130°C (glass covering)

**Measuring current**  $100\Omega$ : 0.3 to 1.0mA

1000 $\Omega$ : 0.1 to 0.3mA

(self heating has to be considered)

Self heating 0.4 K/mW at 0℃

**Response time** water current (v= 0.4m/s):  $t_{0.5}$  = 0.15s

 $t_{0.9} = 0.30s$ 

air stream (v= 2m/s):  $t_{0.5} = 3.5s$ 

 $t_{0.9} = 10s$ 

**Processing instructions** face up-mounting: reflow soldering or wave

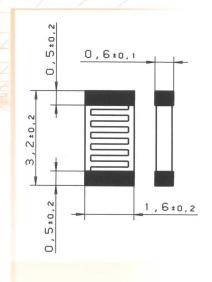
soldering, e. g. double wave ≤ 8s / 235℃

Storage life Min. 9 months (in dry environment)

Packaging "Face-up" in blister reel, 4000 pcs / reel

Note 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** 

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## **Platinum Resistance Temperature Detector**

**SMD 1206 (V)** 

## Solderability test of SMD type sensor elements

#### **Assembly conditions**

Layout of PCB: Benchmarker II 150µm (material FR4 35µm Cu, size 190.5 x 127 x 1.5mm)

Tested PCB surfaces: chem. Ag, Cu OSP, NiAu, chem. Sn

Solder Paste: F640 SA30C5-89 M30 (material SnAgCu 96.5/3.0/0.5)

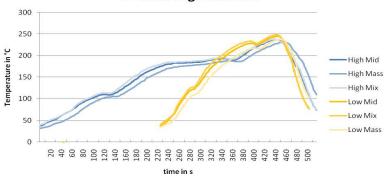
#### **Tested elements**

Pt 1000 SMD- V 0603 Pt 1000 SMD- V 0805 Pt 1000 SMD- V 1206

#### **Solder conditions**

Profiles: High and Low Atmosphere: Nitrogen and Air

## Profiles High and Low



	Peak (max. temperature)		time above 217 ℃ in s	
	High	Low	High	Low
Mid <sup>1</sup>	237 ℃	245 ℃	60	92
Mass <sup>2</sup>	231 ℃	238 ℃	49	68
Mix <sup>3</sup>	238 ℃	248 ℃	65	103

<sup>1</sup> Mid: Position of temperature sensor in the middle of the PCB

<sup>2</sup> Mass: Position of temperature sensor at a big mass area on the PCB

<sup>3</sup> Mix: Position of temperature sensors on right and left side on the PCB

Profile High: complete processing time 520 s Profile Low : complete processing time 280 s

#### Result

All tested samples showed a sufficient wetting under the described profiles High and Low, based on a visual soldering point inspection.

All given data should not be construed as guaranteeing specific properties of the product or its suitability for a specific particular application. The data are an extract from a test report with status from July 2010.

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