

## Technical Data Sheet

### THICK FILM MATERIALS

**Product Type:** Conductors

**Product Name:** LPA 88-11S



#### Platinum Conductor Paste for High Temperatures

##### Description

LPA 88 – 11S is a fritted platinum conductor paste. Continuous operation at high temperatures (up to 1000 °C) is possible.

##### Key Benefits

- Chemically resistant
- Free of cadmium and nickel
- REACH<sup>4</sup> and ROHS<sup>5</sup> compliant

##### Processing

- 1) Spatulate well prior to processing.  
  
When stored in a refrigerator, the paste should have acquired room temperature before being opened, to avoid condensation.
- 2) Print through a 200 – 325 mesh screen.
- 3) Level at room temperature for 5 – 10 minutes.
- 4) Dry at 150 °C for 10 minutes.
- 5) Fire in air at a temperature of at least 950 °C (peak) for 10 minutes.  
  
1100 °C or more is preferred, adhesion increases with temperature. Heating and cooling rates are determined by substrate material used (a recommended ramp rate for Al<sub>2</sub>O<sub>3</sub> is 20 – 40 K/min).

##### Thinner

HVS 100

##### Typical Properties (Paste)

Form	Pseudoplastic paste
Viscosity	20 – 40 Pas (25 °C, D = 100/s)
Printing Speed	Up to 10 cm/s
Shelf Life	12 months from date of shipment with correct storage (in a dry, cool (2 – 23 °C) and dark place with container tightly shut).

##### Typical Properties (Fired)<sup>1</sup>

Fired Film Thickness <sup>2</sup> (FFT)	7 – 12 µm
Resistivity <sup>2</sup>	≤ 100 mΩ/□ (FFT: 8 µm)
HOT TCR <sup>3</sup> (25 – 125 °C)	+ 3500 ppm/K (typical value)

##### Compatibility

Dielectrics	IP 211 Series
Substrates	Al <sub>2</sub> O <sub>3</sub>

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#### Legend:

- 1) Typical properties based on laboratory test methods. For optimum results all materials should be fired in a profiled furnace supplied with dried, hydrocarbon and other contaminant free air (Process Procedure (PP)-1).
- 2) Measured after printing with a 200 mesh stainless steel screen; screen thickness and emulsion thickness combined was c. 100 µm, and the resultant printed track was 500 µm wide.
- 3) HOT TCR: Hot Temperature Coefficient of Resistance Typical value, measured on a meander track of 600 squares
- 4) REACH compliant according to the latest \*\* Annex XIV to Regulation (EC) of the European Parliament and of the council on the Registration, Evaluation, Authorisation and Restriction of Chemicals ("REACH") by European Chemicals Agency and its subsequent amendments; the material does not contain any substance listed in Annex XIV.
- 5) RoHS compliant according to the latest \*\* Directives (European Union) of Restriction of Hazardous Substances ("RoHS") and its subsequent amendments (including the exceptions related to Pb)

\* See the data sheet issue date (DD/MM/YY) as reference of validity of latest edition which is available on request

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