

## Technical Data Sheet

### THICK FILM MATERIALS

**Product Type:** Conductors

**Product Name:** C1076SD (LPA609-022)



#### REACH Compliant Silver / Platinum Conductor Paste

#### Description

C1076SD (LPA 609-022) is a low cost Ag / Pt conductor material that utilizes an oxide bond system for providing particularly excellent adhesion to alumina and beryllium oxide substrates. The material can easily be used to print fine line patterns or large-area ground planes, and features all the advantages of a fritless system. Resulting film is dense and uniform.

#### Key Benefits

- REACH compliant version of C1076SD
- Excellent solderability and leach resistance
- Solderable on alumina and HERAEUS dielectrics
- Compatible with HERAEUS resistors
- Excellent initial and aged adhesion
- Inner layer for multilayer applications
- Very good conductivity
- Aluminum and gold wire bondable
- Free of cadmium and nickel
- REACH<sup>3</sup> and ROHS<sup>4</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 stainless steel screen. Total thickness: 50 – 110 µm.
- 3) Level at room temperature for 5 – 10 minutes.
- 4) Dry at 150 °C for 10 – 20 minutes.
- 5) Fire at 850 °C (peak) for 10 minutes, and with a total firing cycle time of c. 30 – 60 minutes.

#### Thinner

HVS 100  
RV 372

#### Typical Properties (Paste)

Viscosity	30 – 50 Pas (25 °C, D = 100/s)
Solids	82.0 ± 1.5 %
Printing Speed	Up to 20 cm/s
Coverage	c. 80 cm <sup>2</sup> /g (FFT: 12 µm)
Shelf Life	6 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)	12.5 – 15.5 µm
Line Definition	≥ 125 µm
Resistivity <sup>2</sup>	≤ 4.0 mΩ/□ (FFT: 12 µm)
Solderability (Sn62/Pb36/Ag2)	Good ≥ 95 % (235 °C, 5s dip) (assessment acc. DIN 41850-2 E)
Adhesion, Aged (Sn62/Pb36/Ag2)	(48 h, 150 °C) on alumina ≥ 20 N on IP9117S ≥ 18 N
Leach Resistance (Sn62/Pb36/Ag2)	≥ 5 dips (235 °C, 10s each)

#### Compatibility

Dielectrics	IP9117 <sup>3</sup> IP9117E <sup>3,6</sup>
Resistors	R8900 (WP09-XY) Series <sup>3,5,7</sup> R400L Series <sup>3</sup>

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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 (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) 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.
- 4) 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)
- 5) For 1 Ω/□ please do not apply a high Ag contained resistor termination – please contact us for a suitable conductor, if required.
- 6) REACH complaint version to replace IP9117S, IP9117SB and IP9117D
- 7) REACH complaint version to replace R8900 / R8900D Series

\* 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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