Heraeus

Conductors

C 1076 SD (LPA 609-022)

Silver / Platinum Conductor Paste

Description
C 1076 SD (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.

Resulting film is dense and uniform, and features all the advantages of a fritless system.

Key Benefits
- 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 [3] and RoHS [4] compliant

Processing
1. Spatulate well prior to processing. When stored in a fridge: 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 (Pastes)

Viscosity:	30 – 50 Pas (25°C, D = 100 s^{-1})
Solids:	82.0 % +/- 1.5 %
Printing Speed:	Up to 20 cm / s
Coverage:	c. 80 cm^2 / g (FFT: 12 µm)
Shelf Life:	6 months from date of shipment with correct storage (in a dry, cool (2 to 23°C) and dark place with container tightly shut)

Typical Properties (Fired) [1]

Fired Film Thickness [2]: (FFT)	12.5 – 15.5 µm
Line Definition:	≥ 125 µm
Resistivity [2]:	≤ 4.0 mΩ / □ (FFT: 12 µm)
Solderability: (62Sn / 36Pb / 2Ag)	Good ≥ 95% (235°C, 5s dip) (assessment acc. DIN 41850-2 E)
Adhesion, Aged: (62Sn / 36Pb / 2Ag)	(48 hrs, 150°C) on alumina ≥ 20 N on IP9117S ≥ 18 N
Leach Resistance: (62Sn / 36Pb / 2Ag)	≥ 5 dips (235°C, 10s each)

Compatibility

Dielectrics:	IP 9117 Series
Resistors:	R 8900 Series R 8900 D Series R 400 H Series R 400 L Series

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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 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 Commission Regulation (EU) No 143/2011 of 17 February 2011 amending Annex XIV to Regulation (EC) No 1907/2006 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; we define a material as REACH compliant, as long as substances used are not recorded in the Annex XIV.

4 RoHS compliant according to the Directives (European Union) No 2011/65/EC of Restriction of Hazardous Substances ("RoHS") and its subsequent amendments (including the exceptions No. 7.c. I of the EU Directive e.g. related to Pb)

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