CERMET SILVER/PLATINUM CONDUCTOR 9512

Low cost, general-purpose, cadmium-free silver/platinum conductor

ESL 9512 is a mixed-bonded platinum/silver paste developed for general applications in the automotive market. It exhibits excellent adhesion after 1000 thermal cycles, -30°C to 110°C, and after 1000 hours of aging at 150°C. This material also exhibits excellent solderability and solder leach resistance with 62Sn/36Pb/2Ag solder on alumina.

PASTE DATA

Rheology: Thixotropic, screen-printable paste

Viscosity:
(Brookfield RVT, 10rpm, ABZ Spindle, 25.5 ± 0.5 °C) 200 ± 25 Pa.s

Bonding Mechanism: Mixed-bonded

Shelf Life (20 - 25 °C): 6 months

PROCESSING

Screen Mesh, Emulsion: 325 S/S, 20 - 25 µm

Levelling Time (at 20°C): 5 - 10 min

Drying Time (at 125°C): 10 - 15 min

Firing Temperature Range: 850 - 930°C in air

Optimum: 850°C

Time at peak: 10 - 12 min

Total Firing Cycle: 1 hour

Substrate for Calibration: 96% alumina

Thinner: ESL 401
TYPICAL PROPERTIES

**Fired Thickness:**
(measured on a 2 mm x 2 mm pad on 96% alumina) 9 - 14 µm

**Approximate Coverage:**
75 - 100 cm²/g

**Resistivity:**
(measured on a 100 mm x 0.25 mm conductor track at 12.5 µm fired thickness) ≤ 3 mΩ/

**Printing Resolution:**
(line/space) 0.125 mm / 0.125 mm

**Solder Wettability:**
(RMA Flux, 5 sec. dip, 62Sn/36Pb/2Ag, 220°C) 100%

**Solder Leach:**
(No. of 10 sec. dips to double lowest resistance of 100 mm x 0.25 mm conductor, 62Sn/36Pb/2Ag, 220°C) ≥ 5 dips

**Adhesion:**
(90° Pull, 2 mm x 2 mm pads, 62Sn/36Pb/2Ag)

  - Initial pull strength: ≥ 6.4 kg
  - Aged 48 hours at 150°C: ≥ 6.4 kg