SILVER PALLADIUM CERMET CONDUCTOR

For use on AlN Substrates

ESL 9633-T is a high performance conductor specially formulated for use on aluminium nitride substrates. It exhibits good adhesion, very good solderability, leach resistance, and silver migration resistance.

PASTE DATA

RHEOLOGY: Thixotropic, screen-printable paste

VISCOSITY:
(Brookfield RVT, ABZ spindle, 10 rpm, 25.5 ± 0.5 °C) 275 ± 25 Pa.s

BONDING MECHANISM: Mixed-bonded

SHELF LIFE: (at 25 °C) 6 months

PROCESSING

SCREEN MESH/EMULSION: 325/25 µm

LEVELING TIME: (at 25°C) 5 - 10 min

DRYING TIME: (at 125°C) 10 - 15 min

FIRING RANGE: 850°C - 930°C in air

OPTIMUM: 850°C

TIME AT PEAK: 10 - 12 min

RATE OF ASCENT/DESCENT: 60°C - 100°C/minute

SUBSTRATE FOR CALIBRATION: aluminium nitride

THINNER: ESL 401
TYPICAL PROPERTIES

FIRED THICKNESS:
(measured on a 2 mm x 2 mm pad) 10 - 15 µm

APPROXIMATE COVERAGE: 70 - 100 cm²/gram

RESISTIVITY:
(measured on a 100 mm x 0.25 mm conductor track at 12.5 µm fired thickness) ≤ 50 mΩ/square

PRINTING RESOLUTION:
(line/space) 250 µm x 250 µm

SOLDER WETTABILITY:
(RMA flux, 5 sec. dip, 62 Sn / 36 Pb / 2 Ag, 220°C ± 5°C) Very Good

SOLDER LEACH RESISTANCE:
(Number of 10 sec. dips to double resistance of 100 mm x 0.25 mm conductor track at 12.5 µm fired thickness, 62 Sn / 36 Pb / 2 Ag, 220°C ± 5°C) > 8 dips

ADHESION:
(90º pull, 2.0 mm x 2.0 mm pads, 62 Sn / 36 Pb / 2 Ag, 220°C ± 5°C, on AlN) INITIAL PULL STRENGTH: ≥ 75 N