ESL ELECTROSCIENCE
CERAMIC TAPES & THICK-FILM MATERIALS
416 EAST CHURCH ROAD
KING OF PRUSSIA, PA 19406-2625, U.S.A
T: 610-272-8000
F: 610-272-6759
www.electroscience.com

PALLADIUM SILVER CONDUCTOR 9647

RoHS Compliant* Conductor with Excellent Adhesion, Solderability, and Wire bondability

ESL 9647 is a palladium silver conductor with approximately a 3:1 Ag to Pd ratio. It is designed to have good initial adhesion and good thermal aging adhesion after an extended period of time at temperature. This conductor also has excellent large-diameter aluminium wire bondability. ESL 9647 is lead, cadmium, and nickel free.

PASTE DATA

Rheology:	Thixotropic, screen-printable paste
Viscosity: (Brookfield RVT, 10 rpm, ABZ spindle, 25.5 ± 0.5 °C)	325 ± 25 Pa.s
Bonding Mechanism:	Mixed-bonded
Shelf Life (20 - 25 °C):	6 months

PROCESSING

Screen Mesh, Emulsion:		325 S/S, 25 µm
Levelling Time (at 20°C):		5 - 10 min
Drying Time (at 125°C):		10 - 15 min
Firing Temperature:		850°C
	Time at peak:	10 min
Rate of Ascent/Descent:		60 - 100°C / min
Substrate for Calibration:		96% alumina
Thinner:		ESL 413

ESL Affiliates
ESL Europe (Agmet Ltd) • 8 Commercial Road • Reading • Berkshire • England • RG2 0QZ • Tel: +44 (0) 118 918 2400 • Fax: +44 (0) 118 986 7331 • Sales@ESLEurope.co.uk
ESL Nippon • Sukegawa Bldg. • 6th floor • 3-4 Yanagibashi 1-chome • Taito-ku • Tokyo 111, Japan • Tel: +81-3-3864-8521 • Fax: +81-3-3864-9270 • Sales@ESL-Nippon.co.jp
ESL China • Room #1707, Tower A, City Center of Shanghai • 100 Zunyi Road • Shanghai, China 200051 • Tel: +86-21-6237-0336 and 0337 • Fax: +86-21-6237-0338
ESLChina@eslshanghai.net

See Caution and Disclaimer on page 2.

TYPICAL PROPERTIES

Fired Thickness: (at least 2 layers 96% alumina)	10 ± 3 µm
Resistivity:	≤25 mΩ/sq
Printing Resolution: (line/space)	0.125 mm / 0.125 mm
Solder Wettability: (RMA flux, 5 sec. dip, 60Sn/40Pb at 250°C)	Excellent
Solder Leach: (No. of 10 sec. dips to double lowest resistance of 100 mm x 0.25 mm conductor, 60Sn/40Pb at 250°C)	≥ 2 dips
Peel Adhesion: (2 mm x 2 mm pads, 60Sn/40Pb solder)	
Initial pull strength:	> 2.0 kg
Aged 1000 hours at 150°C:	> 1.8 kg
Wire Bondability: (250µm Al wire, 100% wire breaks)	≥ 450 g

***None of the six substances referred to in the RoHS Directive (2002/95/EC) are used in the formulation of this product.**