



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

SILVER PALLADIUM CERMET CONDUCTOR

9633-T

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

9633-T 0904-NEW

ESL Affiliates

ESL China • Rm#1707, Tower A • City Center of Shanghai • 100 Zunyi Road • Shanghai, China 200051 Tel: (011-86)-21-62370336 • Fax: (011-86)-21-62370338 • eslchina@eslshanghai.net

ESL Europe • 8 Commercial Road • Reading, Berkshire, England RG2 0QZ • Tel: (011-44)-118-918-2400 • Fax: (011-44)-118-986-7331 • Sales@ESLEurope.co.uk

ESL Nippon • Sukegawa Bldg • 6th floor • 3-4 Yanagibashi 1-chome • Taito-ku • Tokyo 111, Japan • Tel: (011-81)-3-3864-8521 • Fax: (011-81)-3-3864-9270 • Sales@ESL-Nippon.co.jp

See Caution and Disclaimer on other side.

TYPICAL PROPERTIES

FIRED THICKNESS: (measured on a 2 mm x 2 mm pad)	10 - 15 μm
APPROXIMATE COVERAGE:	70 - 100 cm^2/gram
RESISTIVITY: (measured on a 100 mm x 0.25 mm conductor track at 12.5 μm fired thickness)	$\leq 50 \text{ m}\Omega/\text{square}$
PRINTING RESOLUTION: (line/space)	250 μm x 250 μm
SOLDER WETTABILITY: (RMA flux, 5 sec. dip, 62 Sn / 36 Pb / 2 Ag, 220°C \pm 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 \pm 5°C)	> 8 dips
ADHESION: (90° pull, 2.0 mm x 2.0 mm pads, 62 Sn / 36 Pb / 2 Ag, 220°C \pm 5°C, on AlN)	
INITIAL PULL STRENGTH:	$\geq 75 \text{ N}$

9633-T 0904-NEW

CAUTION: Proper industrial safety precautions should be exercised in using these products. Use with adequate ventilation. Avoid prolonged contact with skin or inhalation of any vapors emitted during use or heating of these compositions. The use of safety eye goggles, gloves or hand protection creams is recommended. Wash hands or skin thoroughly with soap and water after using these products. Do not eat or smoke in areas where these materials are used. Refer to appropriate MSDS sheet.

DISCLAIMER: The product information and recommendations contained herein are based on data obtained by tests we believe to be accurate, but the accuracy and completeness thereof is not guaranteed. No warranty is expressed or implied regarding the accuracy of these data, the results obtained from the use hereof, or that any such use will not infringe any patent. Electro-Science assumes no liability for any injury, loss, or damage, direct or consequential arising out of its use by others. This information is furnished upon the condition that the person receiving it shall make their own tests to determine the suitability thereof for their particular use, before using it. User assumes all risk and liability whatsoever in connection with their intended use. Electro-Science's only obligation shall be to replace such quantity of the product proved defective.
