GOLD CERMET CONDUCTOR

GOLD CONDUCTOR DESIGNED FOR FAST FIRING

ESL 8836-F is an economical, general-purpose gold conductor for use on alumina and ESL 4901 and 4905 Series dielectrics. It has been specifically designed to give thin, smooth, dense films (7-9 µm fired thickness). Excellent results are obtained with thermosonic gold wire bonding (38 µm). ESL 8836-F utilizes the benefits of a fast firing cycle and may be used as a resistor termination.

PASTE DATA

RHEOLOGY: Thixotropic, screen printable paste

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

BONDING MECHANISM: Mixed

SHELF LIFE: (20°C) 6 months

PROCESSING

SCREEN MESH/EMULSION 325/20 µm

LEVELING TIME: (20°C) 5-10 minutes

DRYING AT 125°C: 10-15 minutes

FIRING TEMPERATURE RANGE: 850°C-1000°C in air

OPTIMUM: 850°C

TIME AT PEAK: 1 minute

TOTAL FIRING CYCLE: 13 minutes

SUBSTRATE OF CALIBRATION: 96% alumina

THINNER: ESL 401 or 413
TYPICAL PROPERTIES:

FIRED THICKNESS:  
(measured on a 2.0 mm x 2.0 mm pad on 96% alumina)  
6-9 µm

APPROXIMATE COVERAGE:  
80-85 cm²/g

RESISTIVITY:  
(measured on a 100 mm x 0.25 mm conductor track)  
≤ 7.5mΩ/square

PRINTING RESOLUTION:  
(Line/Space)  
50 µm on 127 µm spiral

ADHESION:  
(90° pull, 2.0 mm x 2.0 mm pads, 80 Au/20 Sn and 62 Sn/36 Pb/2 Ag)  
Initial pull strength:  
≥ 45 N

THERMOSONIC Au WIRE BOND:  
(38 µm wire; bond length 1.0mm; no film lifts; ≥ 95% wire breaks)  
≥ 14 g average

AGED Au WIRE (38 µm) BOND:  
(24 hours at 200°C; ≥ 95% wire breaks)  
≥ 10 g average