

Technical Data Sheet

Low Temperature Co-fired Ceramic Systems L8 LTCC RE89 Resistor Series

Application

The RE89 Series of thick film resistor pastes have been specifically designed for use as co-fired buried resistors with the Ferro L8 LTCC Tape Systems.

RE89 resistors are designed for the manufacture of high frequency Ag, Au, or Mixed-Metal based packages and substrates for defense, aerospace, automotive, telecom, medical, and other high reliability applications up to 40 GHz.

RE89 Resistors formulated and processed to be RoHS compliant.

Typical Formulation Properties

Viscosity: 80 ± 20 Pa.s using HBT 2X Brookfield Viscometer, CP-51 @ 2.5 rpm @ 25°C

Storage and Shelf-life: These products should be stored in tightly sealed containers at 10 - 25°C, in a dry place away from direct sunlight. Shelf life of a factory sealed container is minimum 6 months from date of shipment when properly stored.

Typical Processing Recommendations

Thinning: These pastes are formulated at the appropriate viscosity for the intended application. Contact Technical Service for a recommended thinner to replace solvent loss.

Printing: 280 or 325 mesh stainless steel screen with 12 µm emulsion thickness will provide a typical dried print thickness of 25 ± 2 µm.

Leveling: 5 minutes at room temperature.

Drying: 10 to 15 minutes at 70C with forced air flow and exhaust.

Firing: The RE89 Series of thick film resistors are formulated to co-fire with Ferro's L8 LTCC tape in accordance to the standard firing profile. Please refer to Ferro LTCC Design Guide for details.

Typical Performance Characteristics

		RE89-011	RE89-101	RE89-102
Resistivity	Ω/sq @ 25µm	10 ± 30%	100 ± 30%	1000 ± 30%
TCR ¹	ppm/°C	± 400	± 400	± 300
Re-fire Shift	%	≤ 10%	≤ 10%	≤ 10%
Short Term Overload Voltage ²	V/mm	> 8	> 15	>50
Drift on Electrostatic Discharge ³	%	≤ 0.5%	≤ 0.5%	≤ 0.5%

¹ +25°C to +125°C and CTCR: - 55°C to + 25°C (R and TCR measured on 2mm x 1mm 2 square pattern)

² Minimum voltage required to produce >0.1% change in resistor value

³ 2000V (MIL-STD883, Method 3015-2)



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