VOLTERA

Conductor 3

Description

Voltera Conductor 3 ink is a third generation ink that allows for higher conductivity, flexibility, and more robust hand soldering when compared against Voltera Conductor 2

Application notes

Curing

For best results, follow the recommendations in Table 4. For curing on the V-One, use the automatic bake cycle. The board should be face up, with clamps still attached. For a box oven, cure right side up at 170°C for 15 minutes.

Soldering

Use SMD291 flux. Solder at 180°C for hand soldering and rework.

Recommended substrates

- Fibreglass epoxy or epoxy laminates (FR4, FR1), bare or soldermask-coated
- Glass (untreated, no coating)
- PET
- Polyimide (Kapton)

Design recommendations

For circuit board applications with the standard 250 µm nozzle, consider these design recommendations:

- Minimum IC pin-to-pin pitch: 0.65 mm
- Minimum 2-terminal package: 0402 (imperial)
- Minimum tracewidth: 8 mil/200 µm (recommend 10 mil)

Safety and handling

See SDS for safety, handling, and disposal information.

Table 1: Physical and electrical properties (post-cure)

Test	Value
Sheet resistance (15 µm film thickness)	2.4 mΩ/sq
Resistivity	4.35×10^{-6} Ω.cm
Typical cured film thickness:	15 µm
Adhesion (crosshatch tape test)	4B

Table 2: Composition properties

Test	Value
Density	3.72 g/mL
Clean-up solvent	Isopropyl Alcohol (99%)

Table 3: Printing properties (printed on FR4)

Test	Value
Trace spread after print	< 20%
Recommended nozzle ID	150–250 µm nozzle
Typical line width	6-10 mil 150-250 µm
*Typical print height	100 µm
*Typical feedrate	300–500 mm/min
*Typical kick	0.35 mm

**V-One specific settings*

Table 4: Processing parameters

Test	Value
Curing	15 Minutes at 170°C
Compatible solder	SnBiAg1 SnBiAg0.4 Sn62Pb36Ag2
Typical height (post cure)	10-30 µm
Typical shelf life	12 months, refrigerated
Storage	4–10°C, sealed container