

Ablation

Etching Silver on Ceramic

Our range of redENERGY Pulsed Fiber Lasers can be used to isolate thick bright metal plating on top of ceramic. This allows users to quickly and cleanly create islands of electrical isolation which can then be used as substrates for electronic circuitry.

High power Wave Form 0 pulses fully ablate the 25 to 50 micron thick silver plating to expose the non conductive ceramic layer beneath. Requirement was for a 150 to 180 micron wide line and was achieved at a combined etch and clean rate of 200mm/second.

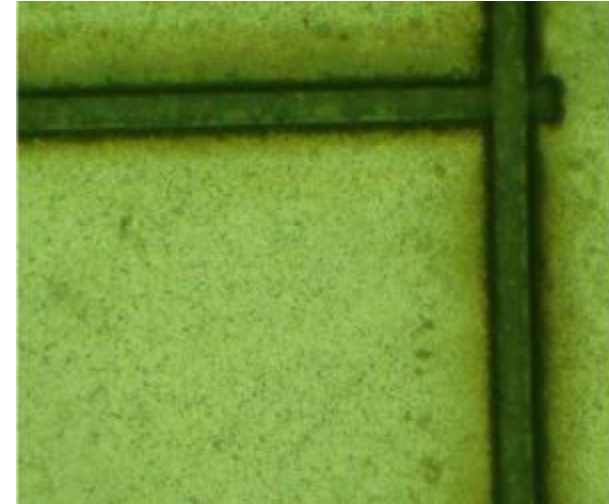
The process uses a standard 10mm scanhead with a FT163 F-Theta lens and requires no processing gas. The redENERGY S-Type Single Mode beam, combined with standard F75 Beam Expanding Collimator creates a small 31 micron spot with sufficient power density to vaporize the thick silver.

The etch was scanned at 650mm/sec with a 30 micron fill using WF 0 at 35kHz. A clean pass run at 1 meter/second Wave Form 5 at 290kHz removed the oxidized silver from the ceramic for guaranteed electrical isolation.

Related Product



Visit our website to view the full product datasheet
redENERGY G4



Application Parameters

| Type | G4 20W HS-S |
|----------------|---|
| Power | 20W |
| M ² | 1.2 |
| Beam Ø | 8mm |
| Scanner/Lens | 10mm/163mm F- theta |
| Energy | WF0 0.55mJ @ 35kHz etch – WF5 0.07mJ 290kHz clean |

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