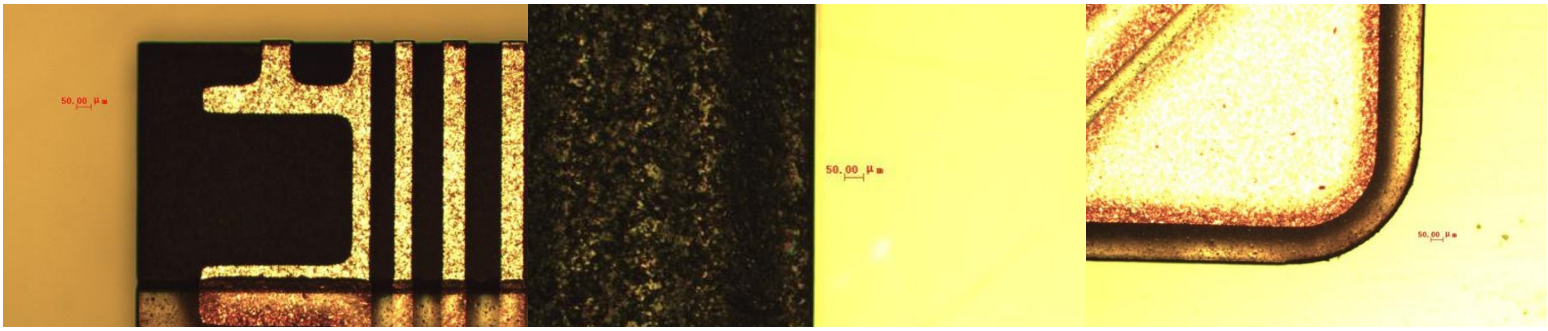
FPCB Cutting

Utilizing Photonics Industries' RX Series High Power Picosecond Laser



Sample Information

The material type is a flexible printed circuit board (FPCB). Layered components include a sub-strate adhered to copper foil.

The picosecond laser cutting followed the inscribed line guides on the FPCB while maintaining a very low heat-affected zone (HAZ).

System Information

Laser Source: RX 355-20 Wavelength: 355nm Power: 20W

Processing Equipment: Beam Diameter 10mm, F-Theta Lens Linos 100mm

Test Data

Optimal parameters for cutting ranged from:

Frequency of 800kHz, 100% PSO Control, Scanning Speed of 1000mm/s, Processing 17 times to 1000kHz, 60% PSO Control, same Scanning Speed, and Processing 12 times.

RX Series High Power Picosecond Lasers

Available in the Infrared, Green, and Ultraviolet wavelengths.

Picosecond Lasers for Industry and Science by Photonics Industries...

Photonics Industries' RX Series picosecond lasers offer high performance, high precision, and robust form for the most demanding industrial as well as scientific applications. Photonics Industries is proven, with over a thousand picosecond lasers shipped worldwide, to meet and fulfill precision needs in manufacturing, accurate laser ranging, and new, emerging requirements necessitating ever smaller pulse widths.

Applications

- Metal, Ceramic, Glass, & Sapphire - Cutting, Drilling, Marking
- Flat Panel Display (FPD) Functional Foils & Display Glass - Cutting, Scribing
- Solar Cells - Scribing, Patterning
- LED - Scribing, Patterning, Dicing
- Medical Device - Cutting, Drilling, Marking
- Glass Reinforced Plastic, & Carbon Fiber - Cutting
- Ink-Jet Nozzle - Drilling
- Printing & Embossing Tools
- ITO Film Removal
- 3D LIDAR

Features

- High pulse energy picosecond laser:

  ~1 mJ for IR, >400 µJ for Green & ~200 µJ for UV
- High power picosecond laser with short pulse:

  100 W for IR, and short pulses ~7 ps for Green & UV, <10 ps for IR
- Wide range of wavelengths:

  1064 nm, 532 nm, 355 nm
- Superior form factor as the most compact, rugged, All-in-One picosecond laser
- Highest efficiency picosecond laser with the low power consumption:

  < 600 W typical
- High repetition rates:

  Single shot up to 8 MHz
- Excellent TEM_{00} beam:

  Typical $M^2 \leq 1.2$
- Exceptional Beam Pointing Stability:

  < 20 µrad
- Exceptional and Versatile Pulse Control:

  PEC (Power or Pulse Energy Control)

  Burst Mode with programmable amplitude capability

  PSO (Position Synchronized Output) support for constant pulse energy regardless of trigger rate

Main Headquarters: 1800 Ocean Ave, Ronkonkoma, New York 11779, United States

Photonics Industries International is the pioneer of intracavity harmonic lasers and is at the forefront of developing, manufacturing and marketing a wide range of nanosecond, sub-nanosecond, picosecond and femtosecond lasers for industrial, scientific, defense, and medical industries. Check out our products and see how we can help you apply our lasers to your needs.

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