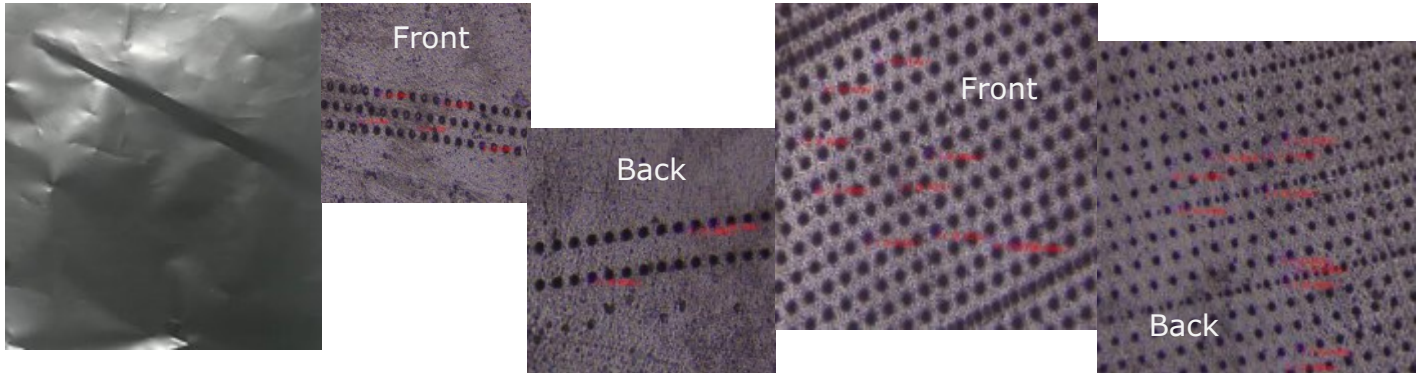


Black PET Trepanning

Utilizing Photonics Industries' DX Series Nanosecond Laser



Sample Information

The material type is a black polyester (PET). The specific sample thickness is not specified and is negligible for this particular exercise, but has a length of 21cm by width of 29.7cm. The specific application is trepanning or micro hole drilling of the black PET material.

The nanosecond laser material drilling process shall only affect the PET and leave no residue.

System Information

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

Processing Equipment: Beam Expander 3x, F-Theta Lens Linos 100mm, Scanning Galvanometer

Test Data

The processing was conducted by drilling of the PET on a vacuum table, to ensure quality and efficiency.

The optimal processing parameters were frequency set to 50kHz, Pulse energy Control (PEC) set to 10%, and scanning speed set to 3000mm/s at 15 times in processing.



Photonics Industries
International, Inc.

DX Series Nanosecond Lasers

Available in the Green and Ultraviolet wavelengths.

Industrial Nanosecond Lasers to Fulfill Production Needs...

Photonics Industries' DX Series nanosecond lasers offer high performance, excellent precision, and an industrial form factor for the most demanding manufacturing and production environments. Photonics Industries is proven, with reliable, patented intracavity harmonic technologies and thousands of nanosecond lasers shipped worldwide, to meet and fulfill precision needs in manufacturing and production. As "the pioneer of intracavity harmonic solid-state lasers", Photonics Industries continually meets the demands of modern industrial production needs.

Applications

- Silicon Wafers - Scribing, Singulation, Dicing, Dielectric Grooving
- Printed Circuit Boards (PCB) & Flexible Printed Circuit Boards (FPCB) - De-paneling, Cutting, Drilling
- Metal Foil, Ceramic, & Glass - Scribing, Cutting, Drilling
- Solar Cells & PERC Processing - Scribing, Patterning
- Indium Tin Oxide (ITO) - Removal, Processing
- Via Hole Drilling
- UV reel to reel on the fly converting process
- UV Welding Carbon Fiber (CFRP)



Features

- High power nanosecond laser:
Up to 55 W for UV, and 100 W for Green
- Patented intracavity harmonic generation for UV and Green wavelengths
- Superior form factor as the most compact, rugged, All-in-One nanosecond laser
- Highest wall plug efficiency nanosecond laser:
~10% for UV, and ~17% for Green
- Widest selection of pulse widths, differing from any other commercially available single laser platform:
10 ns to > 200 ns
- Excellent TEM₀₀ beam:
Typical M² < 1.1
- Superior Pulse Stability:
Typical < 2%
- Exceptional Beam Pointing Stability:
< 25 μ rad
- Total Pulse Control:
PEC (Power or Pulse Energy Control)
Duty Control for ultimate adaptability to production needs

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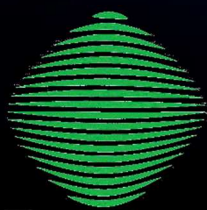
Photonics Industries International is the pioneer of intracavity harmonic lasers and is at the forefront of developing, manufacturing and marketing a wide range of nanosecond, sub-nanosecond, picosecond and femtosecond lasers for industrial, scientific, defense, and medical industries. Check out our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

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