

EzLaze II

Laser Cutting System for Semiconductor Failure Analysis



Applications

- Semiconductor Failure Analysis
- Cutting metal lines
- Removing passivation, oxide and metal layers

Features

- Compact, air-cooled laser system that requires no costly maintenance
- Laser-head design with stepper motor for high repeatability and precise cutting
- Uniform cuts from 50 μ m x 50 μ m (with 50X objective) to 1 μ m x 1 μ m (with 100X objective)
- User-selectable wavelengths (1064nm, 532nm, 355nm, and/or 266nm) for cutting and machining a wide range of materials
- Simplified operation via intuitive, microprocessor-based remote-control panel, or an RS232 interface
- Three trigger modes: single-shot, 1Hz, or burst of 5Hz (for a maximum of 50 shots followed by 20 seconds lockout cooling time) to facilitate faster material removal
- Wide energy range with precise energy control
- Easy to install and operate

Recommended Wavelengths for Cutting Materials

IR (1064nm)	Green (532nm)	UV3 (355nm)	UV4 (266nm)
Aluminum	Copper	Polyimide	Polyimide
	Gold	Kapton	Kapton
	Poly Silicon	Silicon	Silicon
	Aluminum	Nitride	Nitride
		SOG	SOG
		Silicon Oxide	Silicon Oxide

EzLaze II Products

Model	1064 nm	532 nm	355 nm	266 nm
IR Only	.6mJ / .2 mJ ¹			
Green Only		.6mJ / .2 mJ		
IR/Green	.6mJ / .2 mJ	.6mJ / .2 mJ		
Green/UV3		.6mJ / .2 mJ	.6mJ / .2 mJ	
Green/UV4		.6mJ / .2 mJ		.25mJ / .075 mJ
TriLite UV3	.5mJ / .15 mJ	.5mJ / .15 mJ	.4mJ / .15 mJ	

Cut Size (with single pulse)

Minimum with 100X objective	2 µm x 2 µm	1 µm x 1 µm	1 µm 1 µm	2 µm x 2 µm ²
Maximum with 50 X objective	50 µm x 50 µm	40 µm x 40 µm	30 µm x 30 µm	30 µm x 30 µm

- 1) Minimum energy at High/Low settings.
2) With 50X NUV objective lens.

Physical Characteristics

	Laser Head	Power Supply	Control Panel
Length	6.25" / 159 mm	5" / 126 mm	7" / 178 mm
Width	6.38" / 162 mm	11.4" / 289 mm	5" / 126 mm
Height	11.75" / 298 mm	8.12" / 206 mm	3.25" / 83 mm
Weight	10 lbs. / 4.4 kg	9 lbs. / 4.1 kg	2 lbs / 0.9 kg
Length Umbilical	8 ft / 2.4 m		10 ft / 3 m

Operating Requirements

Temperature	70° ±10° F (21° ±5° C)
Relative Humidity	20—80% non-condensing
Voltage	100—120/240 VAC (laser), 100—120/240 VAC (illuminator), 50/60 Hz
Power	100 watts for laser, 150 watts for illuminator



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