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# EzLaze3 LASER CUTTING SYSTEM

## FOR SEMICONDUCTOR FAILURE ANALYSIS AND LCD REPAIR



EzLaze 3 shown with power supply and remote control. Microscope, stage and stand are options.

## Applications

- Cutting Metal Traces
- Removing passivation, oxide and metal layers
- Removing ITO shorts

## Features

- Air-cooled architecture
  - No cooling water
  - Compact, Lightweight
  - No maintenance required
- Selectable wavelengths allow cutting and machining of a wide range of materials:
  - 1064 nm, 532 nm, 355 nm or 266 nm
- 3-axis control of cut size and orientation. From 2µm x 2µm (with 100X objective) to 50µm x 50µm (with 50X objective). Rotation through 180°.
- Simple operation via remote control box with a 6.5cm x 7.5cm LCD screen displaying menu-based commands or via RS232 interface.
- Precise energy control over a wide range.
- Internal LED spot marker.
- Compatible with most major brands of FA microscopes (Mitutoyo, Motic, Seiwa).
- 3 Operating modes:
  - Single shot
  - Continuous (1 Hz)
  - Burst (max. of 10 sec. at 5 Hz).

## Wavelengths Recommended for Cutting Common Materials

| **IR** (1064nm) | **Green** (532nm) | **UV3** (355nm) | **UV4** (266nm) |
|---|---|---|---|
| **Aluminum** | **Copper** | **Polyimide** | **Polyimide** |
| — | **Gold** | **Kapton** | **Kapton** |
| — | **Poly Silicon** | **Silicon** | **Silicon** |
| — | **Aluminum** | **Nitride** | **Nitride** |
| — | **Silicon Dioxide** | **SOG** | **SOG** |
| — | — | **Silicon Dioxide** | **Silicon Dioxide** |

U.S. Patent #. 5,611,946, 5,811,751, 5,963,364, 5,703,713
Japan Patent #. 3026362

## Standard Configuration includes

- Laser Head
- Standard Energy
- XY Shutter (Std. Resolution)
- Power Supply
- Remote Control
- 2.4m umbilical
- Video spot marker
- Foot switch

## Options

- High Pulse Energy
- Rotating Shutter1
- High Resolution Shutter
- Motorized Polarizer
- Horizontal Mount Laser
- Head with Robot-length
- Umbilical
- Internal Spot Marker2
- Microscope & Accessories

# EzLaze3 LASER CUTTING SYSTEM

## FOR SEMICONDUCTOR FAILURE ANALYSIS AND LCD REPAIR

## SPECIFICATIONS

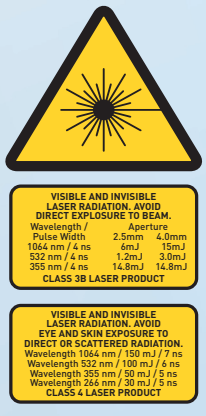
**Standard Energy** (Minimum Pulse Energy at Laser Aperture)

| Model | 1064 nm | 532 nm | 355 nm | 266 nm |
|---|---|---|---|---|
| IR Only | 0.5mJ | — | — | — |
| Green Only | — | 0.5mJ | — | — |
| IR/Green | 0.5mJ | 0.5mJ | — | — |
| Green/UV3 | — | 0.5mJ | 0.5mJ | — |
| Green/UV4[3] | — | 0.5mJ | — | 0.25mJ |
| TriLite UV3 | 0.5mJ | 0.5mJ | 0.4mJ | — |
| **High Energy Option**[4] (Minimum Pulse Energy at Laser Aperture) | | | | |
| IR Only | 2.2mJ | — | — | — |
| Green Only | — | 2.2mJ | — | — |
| IR/Green | 2.2mJ | 2.2mJ | — | — |
| **Cut Size** (with single pulse) | | | | |
| Minimum with 100 X objective | 2 µm x 2 µm | 1 µm x 1 µm | 1 µm x 1 µm | 2 µm x 2 µm[5] |
| 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 |

## PHYSICAL CHARACTERISTICS

| Dimensions | Laser Head | Power Supply | Control Panel |
|---|---|---|---|
| Width | 6.3" / 160 mm | 11.4" / 290 mm | 5.0" / 127 mm |
| Depth | 3.3" / 84 mm | 5.0" / 127 mm | 7.0" / 178 mm |
| Height | 12.0" / 305 mm | 8.12" / 206 mm | 3.25" / 83 mm |
| Weight | 8.5 lbs. / 3.9 kg | 9 lbs. / 4.1 kg | 2 lbs / 0.9 kg |

| Operating Requirements | |
|---|---|
| Temperature | 70° ±10°F (21° ±5°C) |
| Relative Humidity | 20—80% non-condensing |
| Voltage | 100—240 VAC, 50/60 Hz |
| Power | 100 watts for laser, 215 watts for illuminator |




Notes:
1. Optional rotating shutter not available for A-zoom microscope. It is also not available with the motorize polarizer.
2. Internal (LED) spot marker is only compatible with the A-zoom option.
3. Green/UV4 is a Class 4 laser.
4. These lasers are considered to be Class 4 lasers.
5. With 80X NUV objective lens.

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