

# alessi

## LY1

### Laser Cutting System





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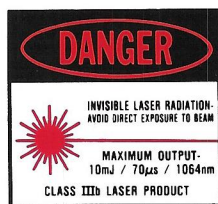
### Laser Cutting System

The Alessi LY1 YAG Laser Cutter has been designed to complement manual and semi-automatic probing systems by combining laser cutting and analytical probing capabilities at one work station. The laser can be focused directly onto a wafer through the optical path of the microscope, thus eliminating the need to remove the D.U.T. from the probe station to perform laser cutting operations. The LY1 cuts aluminum and polysilicon, making it ideal for use in circuit isolation (by severing interconnects) and for exposing sub-surface targets to be probed. The adjustable spot size, from 1 to 40 microns, allows cutting of geometries that are too tight for ultra-sonic cutters. Also, unlike ultra-sonic cutters, the material being cut is vaporized leaving a clean cut with minimal debris.

The LY1 is comprised of a solid state Nd:YAG Laser, an adjustable power controller, and a modified triocular head complete with eye safe filters. Optional camera systems permit viewing of cutting operations on a video monitor and hard copy pictures of the isolated area. With a virtually unlimited shelf life and a 2 year warranty, the maintenance free LY1 is unsurpassed in operation, convenience, and dependability.

### FEATURES

- Cuts aluminum, chrome, gold, polysilicon, titanium, and tungsten.
- Cuts through glass passivation (silicon dioxide & silicon nitride).
- Universal mounting to Cambridge Microzoom.
- Adjustable power settings to control spot size ranging from 1 to 40 microns.
- Unlike ultrasonic cutters, minimal debris is left behind. Most of the cut material is vaporized.
- The laser and controller are compact to conserve table space.
- The LY1 is a solid state laser with unlimited shelf life and a two year warranty.



### SPECIFICATIONS

<b>Wavelength</b>	1,064 nm, Pulsed Nd:YAG
<b>Energy at Objective</b>	20 $\mu$ J to 900 $\mu$ J
<b>Pulse Width</b>	70 Microseconds
<b>Pulse Rate</b>	1 pps
<b>Pulse Stability</b>	6% (Pulse to Pulse)
<b>Safety</b>	CDRH Class IIIb Class I Enclosure available
<b>Min. Beam Diameter</b>	1 $\mu$
Line sizes as small as .25 $\mu$ can be cut on some devices. Actual minimum cutting size is dependent on absorption qualities of the target area.	
<b>Max. Beam Diameter</b>	40 $\mu$
<b>Cooling</b>	Ambient Air (No Fan)
<b>Laser</b>	12h x 2w x 2.75dp, 1.5 lbs.
<b>Power Supply</b>	4h x 8.5w x 12dp, 6.8 lbs.
<b>Power Requirements</b>	115/230 vac, 50/60 Hz 3 amp maximum
<b>Mounting</b>	Cambridge (B & L) Microzoom (I or II), Mitutoyo Finescope

### OPTIONS

- 50X Long Working Distance Objective
- 100X Objective
- 10X Eyepiece with reticle
- Cross-Hair Line Generator
- Panasonic Solid State Color Camera and 13" monitor with mount for use with LY1 laser
- Video Adaptor 10X Eyepiece for Cambridge Microzoom and LY1 laser
- Laser Filter Set (70%, 90%, and 95% reduction)