5335™ esi®

The industry standard for high productivity and yield in flexible and rigid-flexible circuits

The 5335™ is a good fit for FPC and rigid-flex manufacturers that require high-productivity, high-quality, high-accuracy laser processing. Field-proven at the world's top 10 flex manufacturers, the 5335 is equally capable of processing large and small features ranging from blind vias, through vias, routs, and depth-limited patterns.

High-power diode-pumped UV laser for high productivity

The 5335 incorporates a high-power diode-pumped laser to enable efficient cutting through copper-clad laminates and lower your processing cost per panel with high productivity.

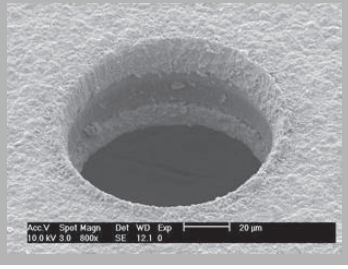
Third Dynamics™ beam positioning for high productivity and better quality

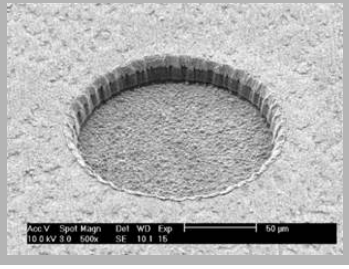
The 5335 uses ESI's proprietary Third Dynamics™ beam positioning technology to enable processing of industry-standard flex materials with excellent quality and high productivity.

Precision Pulse™ power control for high yields and quality

Reduce your yield loss even for challenging depth-limited processes using ESI's industry-leading Precision Pulse™ power control. This feature continuously measures and adjusts the energy of every laser pulse that touches your material to ensure robust process quality every time.

Industry-standard blind and through via production





- High-quality vias as small as 25µm
- Repetition frequency up to 90kHz
- Fifth-generation beam positioner provides 14,000 points-per-second capability

System Specifications

5335™ esi®

Laser

Type	Diode pumped, repetitively Q-switched solid state laser
Pulse Rate for Via Formation	40-90 kHz
Average Power	>6.6W @ 40 kHz work surface

Laser Beam Positioning

Type	Cross-axis with galvanometer (Laser beam moves in XY, part moves in Y axis)
Panel Size	533 mm x 635 mm
Accuracy	± 20 µm over entire panel area
Maximum Average Velocity	1000 mm/s
Peak Point-to-Point Move Speed	14,000 points per second @ 250 µm spacing
Controller	ESI Custom DSP based controller

Main Stage

Type	Cross axis
Motor Type	Brushless linear motors

Secondary Stage

Type	XY Galvanometer
Controller	High-speed custom digital control

Tertiary Stage

Type	XY Acousto Optical Deflectors
Controller	High-speed custom digital control

Laser Power Control

Long Term Stability	±2.5% + 50 mW
Feedback	Closed Loop
Power Control	Precision Pulse™ real-time

Programmable Z Stage

Resolution	1 µm
Maximum Average Velocity	>10 mm/s
Repeatability	± 10 µm
Travel	25 mm

Automatic Alignment and Illumination

Coarse Camera Field of View	30 mm diagonal
Fine Camera Field of View	2 mm diagonal
Detection Device	CCD, monochrome
Illumination	LED

System Control Computer

Type	IBM® PC compatible
Processor	Intel i7 Quad Core
Memory	4GB, DDR3
Hard Drive	Dual 500GB in RAID1 configuration
Backup Device	DVD R/W
Monitor	17" LCD flat panel
Input Devices	Keyboard and trackball

System Software

Operating System	Microsoft Windows 7
Network Compatibility	TCP/IP, 10/100/1000 GBE
Toolpath Generation Software	esiCAM
Drill File Formats	DXF, ASCII, Excellon I and II, Sieb & Meier and Gerber

Automation Capability

Software, mechanical and electrical interfaces provide the capability to attach web and panel material handlers to the system.

Ask an Expert! For facilities guidelines requirements or more information, please contact your local ESI office or visit esi.com.

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