HexScan 2050 SME

ANVIK

Lithography on Large Panels

High-Throughput, High-Resolution Patterning System for Electronic and Opto-Electronic Modules

The Anvik HexScan™ 2050 SME patterning system represents a revolutionary advance in large-panel microlithography systems. It offers the attractive combination of high-resolution *projection* imaging and large-area substrate handling, making it the ideal patterning tool for high-volume, cost-effective production of high-density microelectronic modules, opto-electronic devices, communication electronics, and displays. With its unique variable-area substrate tiling (VAST™) technology, which enables processing of different multiple-up module configurations, this low-cost system serves both as a volume-production lithography system and as a versatile development tool for prototyping a wide range of microelectronic, communication, and opto-electronic products.

Large-Format Substrate Handling

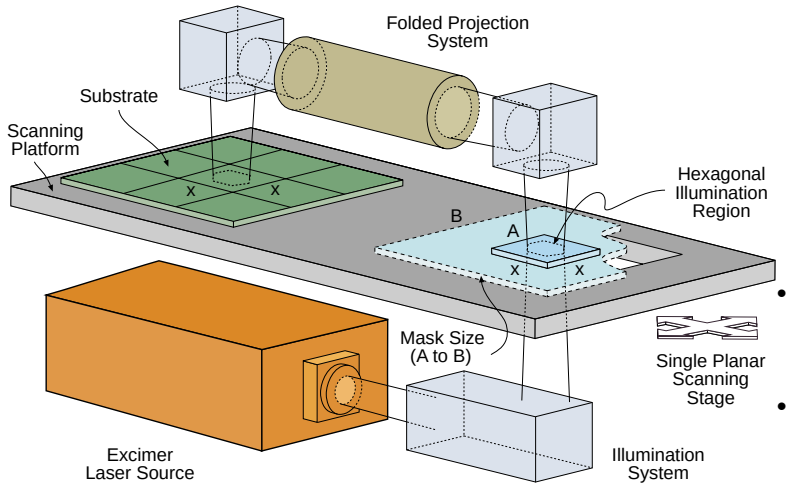
- **Designed for projection patterning on panel sizes up to 610 x 610 mm (24 x 24 inches)**
- **Capable of handling substrates of a wide range of thicknesses**
- **Automated mask-substrate alignment and part handling minimizes overhead time**

High Resolution

- **Doubly-telecentric projection lens provides diffraction-limited resolution of 5 µm (0.2 mil)**
- **Patented seamless scanning technology delivers lens resolution over entire panel**
- **High resolution enables excellent line-edge definition and ablation profiles**

Very High Exposure Throughput

- **Exposure throughputs as high as 180 panels/hr (12 x 12 inch panels), made possible by:**
- **Seamless scanning with hexagonal illumination**
- **Efficient excimer laser illumination system**
- **High-speed, high-precision scanning stage**



HexScan™ 2050 SME large-area projection lithography system schematic, showing Anvik's patented seamless scanning technology with variable-area substrate tiling (VAST™). Different module sizes may be patterned multiple-up on the substrate.

Versatility

- **VAST™ (variable-area substrate tiling) capability allows multiple-up panel exposure**
- **Enables prototyping of different substrates and module sizes for variety of devices**
- **Large depth of focus eases substrate planarity demands and permits imaging in thick resists**

Modularity and Upgradability

- **Modular design enables user to define ideal system configuration**
- **Customer may specify resolution, substrate type and size parameters, and exposure wavelength**
- **Upgradability of key subsystems extends system life over multiple product generations**

HexScan™ 2050 SME Specifications

Imaging Technique	Seamless scanning projection
Resolution	5 microns (0.2 mil)
Projection System	1:1 magnification refractive lens
Depth of Focus	140 microns (5.5 mils)
Substrate Size	Up to 610 x 610 mm (24 x 24 inches)
Illumination Source	XeF excimer laser (other sources optional)
Exposure Wavelength	351 nm (other wavelengths optional)
Overlay Precision	1 micron (0.04 mil)
Alignment System	Automatic
Substrate Handling	Multiple-up module configuration, with variable-area substrate tiling (VAST™)
Exposure Throughput	> 160 panels/hr (12 x 12 inch panels)

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