HexScan 1100 SWE

ANVIK

Wafer-Level Packaging

Wide-Field Lithography for High-Throughput Wafer-Level Microelectronic Packaging

The Anvik HexScan™ 1100 SWE wide-field laser lithography system represents a revolutionary advance in patterning systems for wafer-level packaging applications. It offers the unique combination of high-resolution *projection* imaging, high-precision alignment, and ability to handle silicon wafers and other substrates up to 300 mm in size, making it the ideal exposure tool for cost-effective, volume manufacturing of wafer-level products and other high-performance microelectronic packages. With its excimer laser illumination source, seamless imaging over the entire wafer area, and automatic wafer loading and unloading, this high-throughput system eliminates the limitations of other exposure tools such as contact and proximity printers, steppers, and direct writers.

Large-Format Substrate Handling

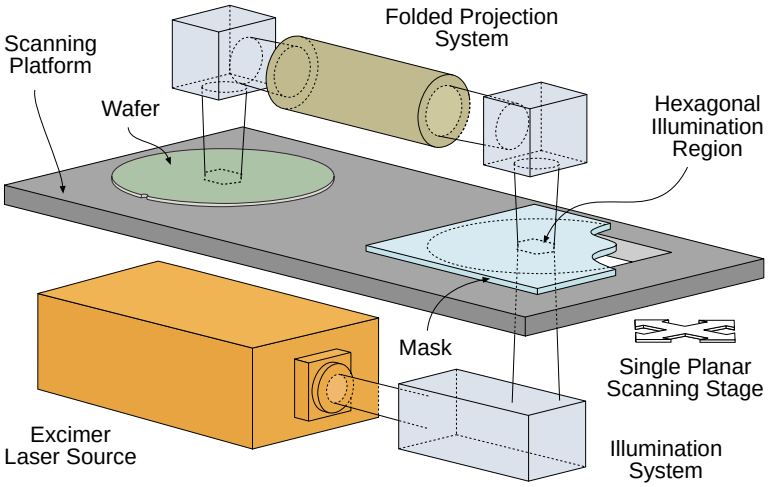
- **Designed for projection imaging on Si wafers and other substrates of sizes up to 300 mm**
- **Ideal for handling substrates of a wide range of thicknesses, from 2 mm down to 150 μm**
- **Capable of exposing large package sizes required for WLP, SOC, MEMS, and optoelectronics**

High Resolution, Fine Alignment

- **Diffraction-limited resolution of 10 μm (0.004") features (lines, spaces, holes)**
- **Patented seamless scanning technology delivers specified resolution over entire wafer**
- **Automatic, high-speed, mask-to-wafer and layer-to layer alignment with ±2.5 μm (.001") precision**

High Exposure Throughput

- **Exposure throughputs of over 100 wafers/hr with conventional photoresists, made possible by:**
- **Seamless scanning with hexagonal illumination**
- **Efficient excimer laser illumination system**
- **High-speed, high-precision scanning stage**



A schematic illustration of the Anvik HexScan™ 1100 SWE wide-field projection lithography system for wafer-level microelectronic packaging products, showing Anvik's patented seamless scanning technology with hexagonal illumination and single-planar scanning stage. The systems can handle rigid and flexible substrates of a variety of sizes, shapes and thickenesses, and also glass or mylar masks.

Versatility

- **Capable of exposing a wide variety of thin and thick photoresists**
- **Ideal for imaging on both rigid and flexible substrates**
- **Capable of handling hard (glass, fused silica) or film (mylar) masks**
- **Large depth of focus eases substrate planarity demands and permits imaging in thick resists**
- **Fully automatic mask and wafer handling capability**

Modularity and Upgradability

- **Modular design enables user to define ideal system configuration**
- **Customer may specify resolution (down to 1 μm), substrate type and size parameters, and exposure wavelength**
- **Available with Anvik's patented x-y scaling capability (up to 5000 ppm) to compensate for substrate dimensional changes**
- **Upgradability of key subsystems extends system life over multiple product generations**

HexScan™ 1100 SWE Specifications

Imaging Technique	Seamless scanning projection
Resolution	10 microns (0.4 mil)
Projection System	1:1 magnification refractive lens
Depth of Focus	560 microns (22 mils)
Substrate Size	Up to 300 mm dia. or 300 x 300 mm sq.
Illumination Source	XeF excimer laser (other sources optional)
Exposure Wavelength	351 nm (other wavelengths optional)
Overlay Precision	2.5 microns (0.1 mil)
Alignment System	Automatic
Wafer and Mask Handling	Automatic
Exposure Throughput	100 wafers/hr

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