

Electron Beam Lithography System ELS-HAYATE

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Surpassing Conventional Microfabrication Systems in Throughput



ELS-HAYATE 50 kV × 8 inch Single auto loader

One-shot Writing with a Maximum Field Size of 5 mm

Industry-largest 5 mm beam deflection. Since the one-shot exposed area is larger, the ELS-HAYATE is perfect for applications where stitching accuracy matters. As stage move times are drastically reduced, the ELS-HAYATE can be used for high-throughput microfabrication.

Adopts a High-Current Electron Optics System with a Maximum Beam Current of 800 nA

The ELS-HAYATE's high-current electron optical system offers ultra-high throughput beyond that of conventional electron beam lithography tools. Patterns on the order of μm to mm , which have previously been produced by laser lithography or photolithography, can now be exposed with high quality.

World's Fastest 400 MHz Scan Clock for Production

The shot pitch has to be set large to balance the minimum dose time and the optimal dose amount in high-current lithography. The 400 MHz scan clock has 1/4 the minimum dose time of a conventional one. This enables high current and narrow-shot pitch exposing which was previously impossible.

Specifications

Electron gun	ZrO/W Thermal field emitter	Min. line width	50 nm (at 1000 μm field) 100 nm (at 5000 μm field)	Loading mechanism	Single auto loader Multi auto loader Robot loader
Acceleration voltage	50 kV	Scan clock	Max. 400 MHz	Software	elms • Beam conditions • Exposure schedule • Pattern data converter • Account management • Python scripting
Beam current	1 nA to 800 nA	Shot pitch	Min. 1.0 nm		
Min. beam diameter	10 nm	Max. sample size	8" wafer / 12" wafer		
Standard field size	5000 μm square	Max. exposure area	200 mm × 200 mm / 300 mm × 300 mm		
Min./Max. field size	Min. 1000 μm square Max. 5000 μm square				

