TWINSCAN XT:860M

248-nm Step and Scan

Description

The TWINSCAN XT:860M 248-nm Step-and-Scan system is a high-productivity, dual-stage KrF lithography tool designed for volume 300-mm wafer production at and below 110-nm resolution. Combining the imaging power of a variable 0.55–0.80-NA Carl Zeiss Starlith 860+ 4X reduction lens with AERIAL II and the optional QUASAR XL illuminator technology, the XT:860M extends volume proven KrF technology to 110-nm applications.

Highly line-narrowed 40-W KrF lasers with variable frequency control, in combination with the high optical transmission of the optical system, provide a production throughput of 240 300-mm wph with the lowest possible cost of operation.

Technical Specifications

Lens	
Wavelength:	248 nm
NA:	0.55–0.80
Resolution:	≤ 110 nm
Field size, for reticle with pellicle	
• Max X:	26.0 mm
• Max Y:	33.0 mm
Distortion (Dynamic)	
Annular:	≤ 10 nm
Overlay	
Single-machine:	≤ 12 nm
Matched-machine:	≤ 14 nm
Production Throughput	
50-mJ/cm ^{2} exposure dose	
300-mm wafers, 96 shots:	≥ 240 wph

Key Features and Benefits

Variable 0.80-NA 248-nm 860+ Projection Lens

Very low aberration levels. Very tight focal plane and distortion control.

AERIAL II Illuminator

Enables continuous-variable conventional and off-axis illumination with zoom optics for maintaining high throughput.

LithoGuide ILIAS

Very accurate system set-up. Monitoring of imaging parameters.

High-Speed Dual-Stage Technology

Provides industry-leading throughput over a wide range of resist sensitivities.

40-W KrF Laser Technology With Variable Laser Frequency Control

The perfect combination of high laser power for high throughput and efficient use of laser pulses for the lowest possible laser cost of operation.

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