AST-S200T

Infrared Table Top Microscope System

The AST-S200T is used for sub-surface observation, imaging, verification and inspection of materials. Transparent to the Near Infrared (NIR) / Shortwave Infrared (SWIR) wavelengths.

AST Table Top Infrared Microscope System

CAPABILITY

Metrology:

- Overlay alignment measurement and verification
- Die alignment measurement and verification, (flip chip/hybridization)
- Sub-surface feature based measurements
- Aperture measurements
- Thickness measurements based on focus adjust Z axis readout

Inspection:

- MEMS device inspection
- 3D Stacking process development and control
- Incoming wafer inspection
- Photovoltaic inspection
- Wafer level CSP's

QA/Reliability/R&D:

- Facilitates continuous improvements for development and production

FLEXIBILITY

Accessories:

- Variety of optical, digital, illumination, polarizer/ analyzer and wavelength filter accessories available for application optimization

Fixtures:

- Custom wafer and device fixtures

SCALABILITY

Manual to Automation:

- Scalable from manual to high throughput automation systems

POWERFUL

Effectiveness:

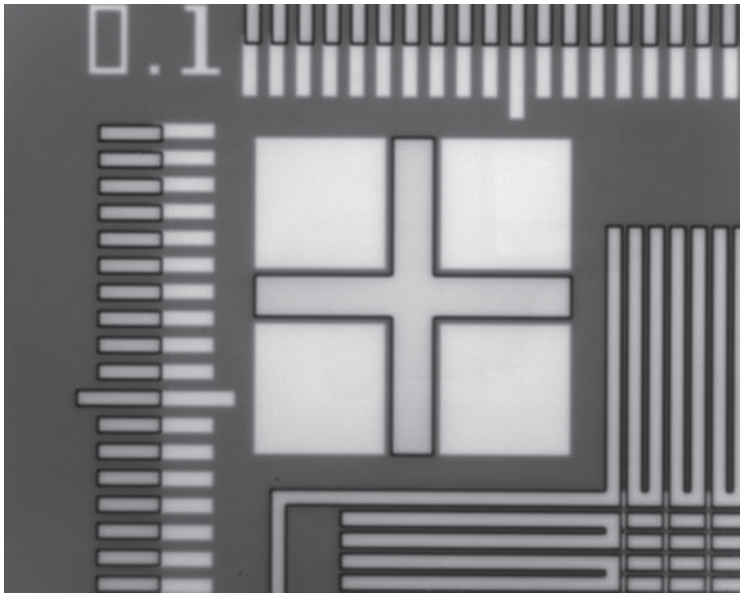
- Able to penetrate thicker, more highly doped materials with rougher surfaces than other systems

Digital Readout:

- Integrated digital readout with XYZ coordinates

Design:

- Coarse/fine manual operation with optional motorized XYZ joystick control



Precise:

- Submicron-precision optical measurements
- Precision staging, to 0.1 micron linear encoder resolution
- Highest resolution 900-1700nm InGaAs digital camera in class

AST Advanced Spectral Technology

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AST-S200T Infrared Table Top Microscope System

OPTICAL SPECIFICATIONS

Camera:

- Cooled InGaAs (900-1700nm)
- Silicon-based option for NIR applications, (740nm-1100nm)

Illumination:

- Epi, optimized Koehler
- Transmitted, optimized sub-stage

Filters:

- Multi position filter slider sets available based on application

Aperture/Field Diaphragms:

- Manual adjust

Magnification:

- 10x-1000x

Objectives:

- 1x-100x, (1x, 2.5x, 5x, 10x, 20x, 50x, 100x). Greater than 100x objectives are available based on the application

Turret:

- Manual, optional motorized

Resolution:

- Submicron optical and digital

Display:

- Large monitor for live and stored image display

PLATFORM SPECIFICATIONS

Stand:

- 8” Microscope stand with coarse/fine Z focus control

Stage:

- 8” x 8” Stage with coarse/fine manual position control. Other stage sizes available upon request.
- Optional motorized stage with joystick control available

PROCESS

In Process:

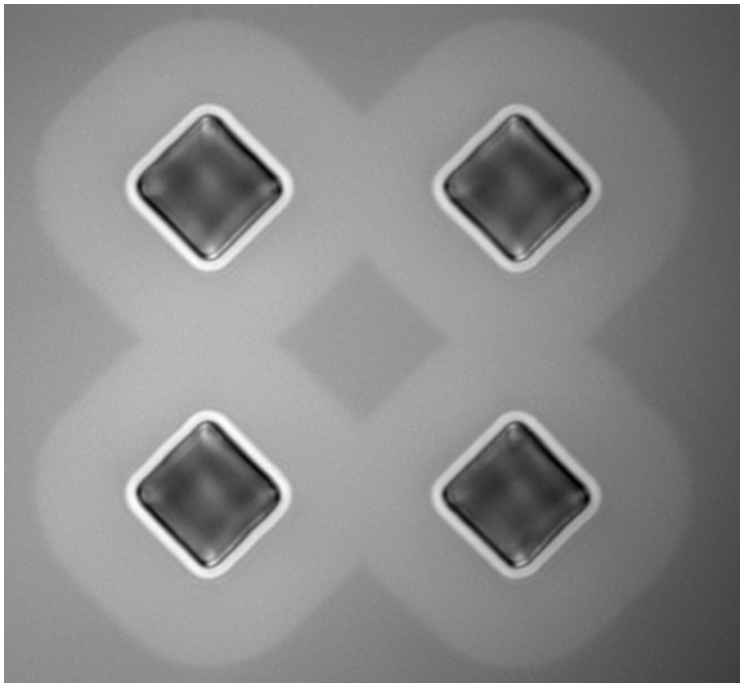
- Verification of critical alignment applications such as: MEMS, wafer bonding, 3D chip stacking, crack/chip inspection metrology.

Post Process:

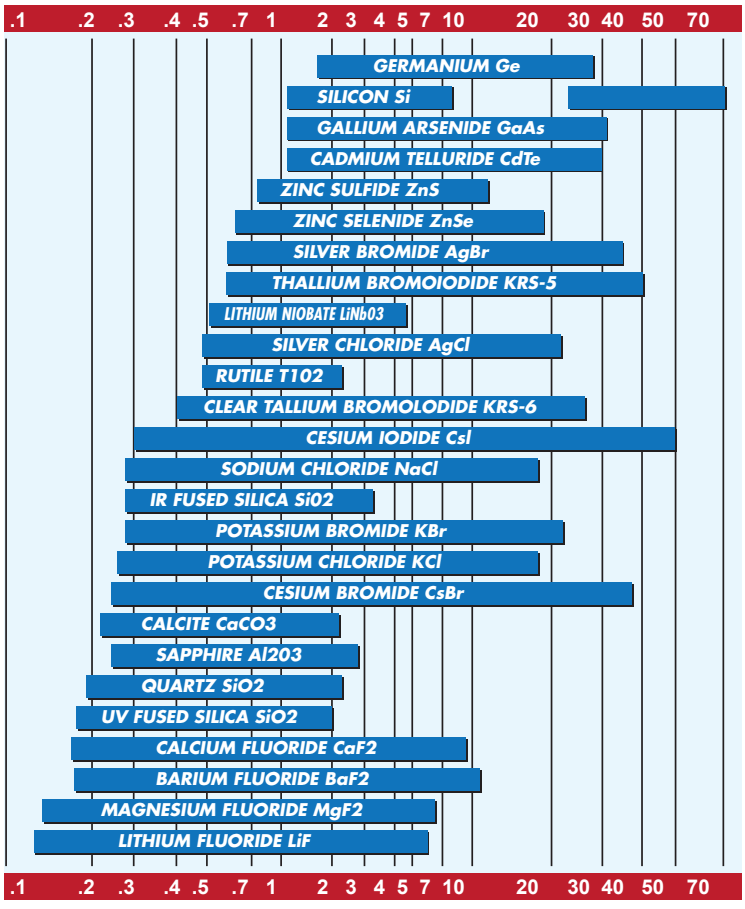
- Verification, validation, inspection and measurement of critical sub-surface features

Failure Analysis:

- Process development tool verification, part characterization, qualification and environmental testing.



Multi-Layer Alignment



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