KLA

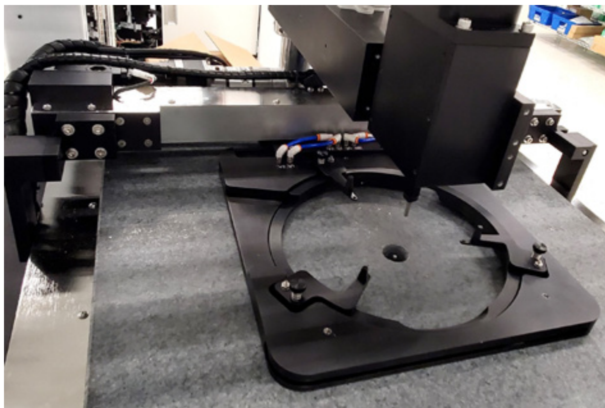
MicroSense® BP1

Automated Wafer Thickness & Flatness Measurement System

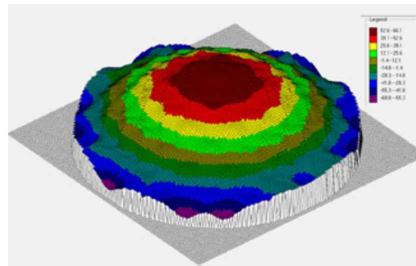
Measure any wafer or substrate regardless of the electrical or optical characteristics

The MicroSense BP1 wafer measurement system precisely measures wafer thickness, flatness and shape using two patented, non-contact, high resolution, auto-positioning back pressure probes. The BP1 is an extremely flexible system that can measure a wide range of wafer thicknesses and any wafer material. Wafer surface finish has no effect on the measurement – the BP1 measures sawn, lapped or polished wafers.

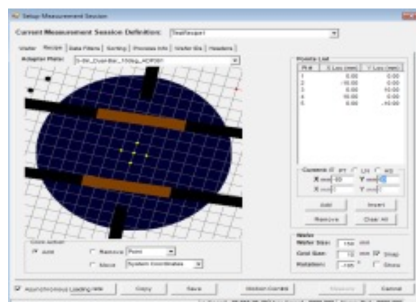
- **Thickness and Total Thickness Variation (TTV) of Compound Semi Wafers** – flexible system handles a range of materials and bonded wafers such as GaAs and GaN (on Sapphire, SiC, or Silicon) and InP, as well as Silicon and Ge
- **Thickness of Thin Wafers** – special wafer holders available for measuring thickness of thinned wafers down to 300 microns. Wafers are pulled into a flattened state for accurate thickness and TTV measurement
- **Glass or Ceramic Substrates** – measure glass wafers, glass-on-silicon wafers, or special purpose glass and ceramic substrates



Non-contact, dual sensor wafer measurements are acquired on non-contact, air bearing stage



3D Wafer Mapping



Flexible Recipe Setup

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Key Features

Wide wafer thickness measurement range - 300µm to 1.7mm – round or square

The MicroSense BP1 is designed to measure wafers as thin as 300µm and those as thick as 1.7mm without time consuming adjustment of the system. Wafers and substrates can be round or square and measure up to 200 mm in extent. A variety of wafer holders are available. We will recommend one or more wafer holders based on the thickness and diameter required.

System Configurations

The BP1 is offered in 2 configurations – manual loading bench top system or autoloading system with robot and two cassettes

Accurate Wafer Measurement

- 0.5µm absolute thickness measurement accuracy with <300µm bow
- Auto calibration of back pressure sensors with integrated calibration standards - no need for master wafers
- High repeatability, non-contact air bearing stage for repeatable wafer positioning

System Options

- Windows 10 base platform
- Wafer holders for various wafer diameters and thicknesses
- Wafer pre-aligner
- OCR reader – one side or two sides
- SECS/GEM
- Off-line data reprocessing software

Advantages

- Direct, material-independent, high sensitivity measurements
- Automatic adjustment to material thickness
- Proprietary backpressure sensing probes for precise, repeatable and reliable measurements
- High sensitivity 2D and 3D wafer mapping topography output
- Integrated, in system, auto-calibration – no need for master wafers or lost productivity
- Automatically load and measures up to 200mm – round or square substrates
- Production worthy design – no cleanroom required

KLA SUPPORT
Maintaining system productivity is an integral part of KLA's yield optimization solution. Efforts in this area include system maintenance, global supply chain management, cost reduction and obsolescence mitigation, system relocation, performance and productivity enhancements, and certified tool resale.

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KLA Corporation
One Technology Drive
Milpitas, CA 95035
www.kla.com

Printed in the USA
Rev 1.0 2021-07-26