

MicroSense® C200L & C200M

Unpatterned Wafer Geometry Measurement System

The Industry Standard Metrology System for Outgoing Quality Control of 200mm Bare and Epi Silicon Wafers

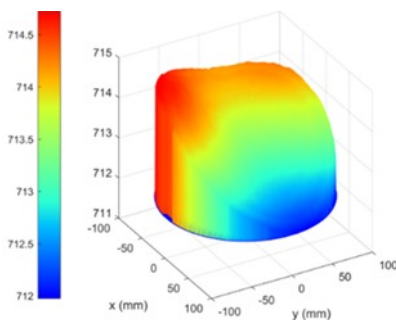
The MicroSense® C200L & C200M measurement systems provide full wafer, high speed geometry measurements on a wide range of 150 and 200mm diameter substrates using non-contact capacitance sensors with nanometer level thickness resolution. Direct, material-independent high resolution, high-density measurements (>200,000 data points/200mm wafer) are captured on each wafer to generate 2D and 3D wafer maps. System output metrics include thickness, bow/warp, wafer P/N type & resistivity as well as flatness measurements for whole wafer, sites, and edge sites.

Key Attributes

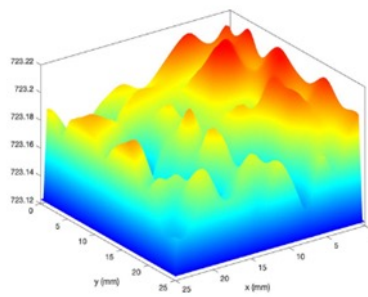
- Patented dual-probe capacitive sensing probes for precise, repeatable and reliable measurements
- Integrated, in system, auto-calibration prior to each wafer measurement - no need for master wafers or lost productivity to calibrate
- Automatically load, measure and sort 150mm or 200mm silicon wafers with 5 cassette stations
- Swappable wafer adapters covering a wide thickness range from 300µm to 1500µm
- Full edge-handling of each wafer provides maximum surface area measurements up to 2mm edge exclusion
- Production worthy, robust design, designed for reliability and long-term support
- SEMI standard compliant



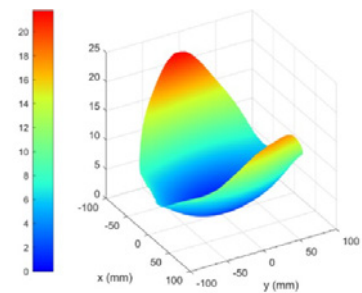
System Output



Thickness, Flatness



Site Flatness (SFQR/SBIR)



Shape - Bow, Warp

System Configuration

- Non-contact 200 mm precision air bearing r-theta stage
- Dual arm robot, slot scanner and pre-aligner; Kinematic 3-point wafer holder
- Cassette sorting; 5 cassettes (in, out, or both), based on pre-defined quality criteria
- Integrated light curtain safety system
- Dual sided SEMI standard compliant capacitance measurement
- Multiple scan patterns, including legacy system emulation. 1.9mm standard measurement ring spacing
- Windows 10 base platform

System Options*

- 150mm substrate capability
- Wafer adapters to accommodate variable thickness (300µm to 1500µm range)
- SECS/GEM Factory Automation
- Resistivity, Low and High (capable range of 0.001 ohm-cm to 200 ohm-cm)
- P/N type sensor
- Optical annealing
- OCR
- Off-line data reprocessing software

Product Advantages

- Center to edge continuous scanning
- Edge handling prevents chucking artifacts
- Gravity compensation calculations provide more robust Bow/Warp data
- Drop-in replacement for legacy ADE systems with emulation mode functionality
- Automatic system calibration before each wafer to ensure accuracy, repeatability and system matching
- Proven platform for future enhancements

Model Comparison*

Description	C200L	C200M
ADE Emulation Modes	E++/E+/E	E++/E+/E
Gauging Electronics (Performance)	X	2X more accurate & repeatable vs. C200L
Throughput	-	10% increase vs. C200L (only on normal throughput)
Semi M49 (ESFQR/ZDD/ERO)	No	Yes

* Contact KLA to discuss your measurement requirements

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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