

Integral Implant



Wireless SensorWafer™
Implant Process Monitoring

Integral Implant



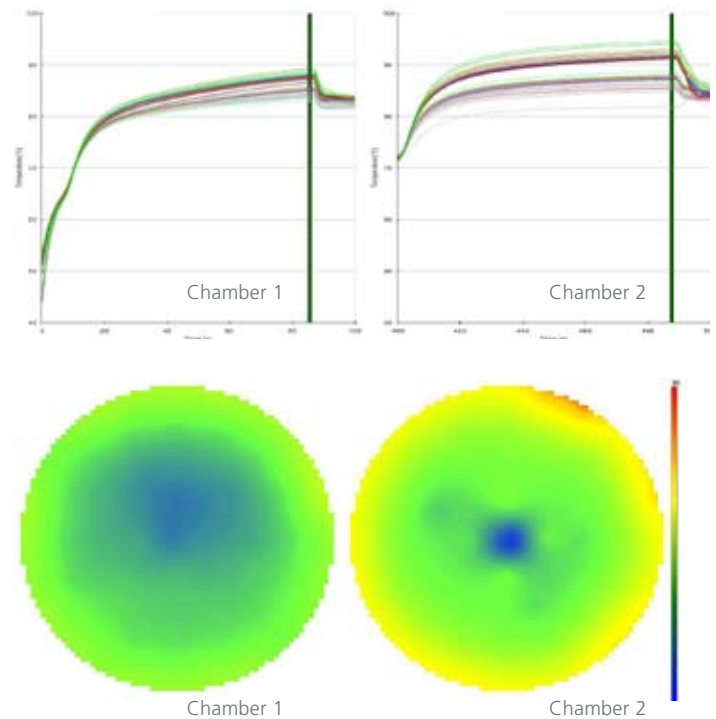
INTEGRAL SENSORWAFER FOR IMPLANT PROCESS MONITORING NEEDS

Advanced technology nodes require more precise wafer-level process control during implant processes. Plasma Implanters are unable to control all plasma parameters, such as wafer temperature, which affect dose uniformity and profile. Current monitoring methods such as temp dots are incapable of measuring the wafer level effects of plasma variations and are not representative of the spatial distribution of temperature and plasma effects. KLA-Tencor's Integral Sensor-Wafers provide a unique way to capture the effect of the process environment on production wafers and allow you to obtain accurate temperature profiles with full wafer spatial resolution.

APPLICATIONS

- Beamline: Sensitive to beam current, platen changes
- Plasma Implants: Wafer-level temperature control for more uniform doping
- Reduce tool start up and qualification time
- Tool and chamber matching
- Process development
- Process troubleshooting

TAKE A REAL LOOK INSIDE THE IMPLANT PROCESS

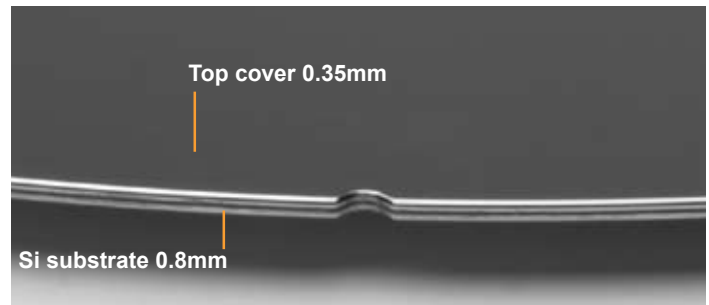


SensorWafer characterization of the PLAD implant process reveals large thermal profile differences between two chambers running the same process.

Wireless SensorWafer™

SENSORWAFER FEATURES

- Up to 65 temperature sensors for rich spatial resolution
- Plasma resistant shielding
- Totally sealed, wet cleanable and chemically resistant
- Thermal mass same as SEMI standard wafer



The Integral Implant Wafer achieves its zero profile planar design by recessing all the electronics, batteries, and sensors into the substrate of a production grade wafer, then affixing a protective cover of approximately half thickness.

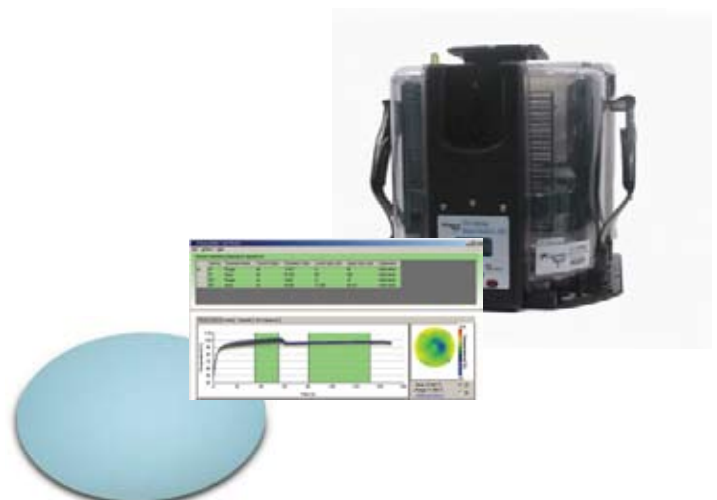
SPECIFICATIONS

Operating Range	15-130°C
Accuracy	± 0.5°C
Sensor-to-Sensor Precision	< 0.25°C
Sensor Quantity	53 (200mm), 65 (300mm)

Thickness	< 1.2 mm total height
Recording Time	18 minutes @ 1 Hz
Warranty	6 months / 4 hours operation

POWERFUL AND CONVENIENT

The Integral SensorWafer is part of a system that is both powerful and easy to use. The integrated FOUP Base Station manages all 300mm wafer operation and data collection duties, and with the Base Station the wafer can be deployed using standard wafer handling equipment. Our powerful PlasmaSuite software package provides full analytic capabilities, allowing the identification and diagnosis of drifting chambers in production as well as assisting in process development and characterization.



KLA-TENCOR SERVICE and SUPPORT

Customer service is an integral part of KLA-Tencor's portfolio that enables our customers to accelerate yield. Our vast customer service organization collaborates with worldwide customers to achieve the required productivity and performance at the lowest cost.

K-T Services includes comprehensive contracts, time and materials, spares, asset management, customer training, and yield consulting

KLA-Tencor Corporation
One Technology Drive
Milpitas, CA 95035
phone 408.875.3000
www.kla-tencor.com

SensArray Division
5451 Patrick Henry Drive
Santa Clara, CA 95054
phone 408.986.5600
fax 408.986.5601
toll free 1.877.377.5600