

Cascade TESLA200

200 mm On-Wafer Power Semiconductor Probing System - Semi-automatic

Up to 10 kV / 600 A with thin-wafer loading ($\geq 50 \mu\text{m}$)
Accurate Rds(on) with constant Rc at all temperatures with Contact Intelligence™ Technology
Anti-arcing solutions for wafer, probes and probe cards

TUV-certified probing environment

- Enclosure for operator safety
- Interlock connection for test instruments
- Regulatory-approved high-voltage and high-current cables and connectors

High-stability microscope mount

- Manual or programmable
- Gross Z lift with repeatable focus for easy access to probes

Connection panels

- Coaxial, triaxial, and pin jack feed-troughs available
- Limit cable strain and motion for measurement stability
- Instrument stays connected to back of panel
- Probe connection made at front of panel
- Simple to re-arrange cabling when needed

MicroChamber®

- EMI-shielding for low-noise measurements
- Environmentally sealed for moisture-free, low-temperature measurements
- Low volume for the fastest purge
- Light-tight to eliminate the need for a dark box

TopHat™

- New TopHat covers for easier and higher-accuracy probe setup
- Allows full access to positioners and microscope at any temperature
- Allows probe adjustments without exposing wafer and chamber to external environment

AttoGuard®

- Extends instrument guard to completely surround wafer
- Makes the station invisible to the instrument
- Extremely low capacitance and leakage characteristics
- Fast settling times

PureLine™ technology

- Enhanced EMI-shielding
- Ideal for low-level IV and CV measurements

Platen lift

- Easy and safe contact and separate function for probe cards and positioners
- Available micrometer adjustment to set probe card contact

MicroChamber access door

- Auto-locking door to protect wafers at cold temperatures
- Full width for easy access to wafers and cal substrates
- Hardware interlock to protect user from hazardous chuck bias voltage

Rollout stage

- Full wafer access for safe and easy loading
- Maintains chuck integrity without contaminating layers
- Easy access to calibration substrates on auxiliary chucks
- New Lift pin technology for fast manual load/unload of hot wafers

eVue™ IV Digital Imaging System

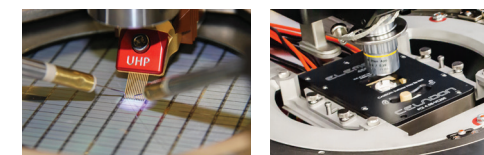
- Fast probe set-up with wide field-of-view and single objective in MicroChamber
- Easy navigation with multiple live video views of probes and wafer
- New high-speed focus system for faster and accurate die stepping
- New safety features for probes and usability

Velox™ probe station control software

- Innovative operating software for advanced prober operation, temperature control, z-profiling and stepping
- Wafer mapping, automated wafer alignment, and auto XYZ and theta correction for sub-micron stepping

Probes / Probe cards

- High voltage (3 kV / 10 kV)
- High current (300 A)
- Low leakage
- Anti-arcing support



Contact Intelligence™ Technology

- Integrated HTS (High Thermal Stability) reduces probe drift and thermal soak time
- Optional VueTrack™ reduces thermal soak time (faster time to data)
- Enables unattended test over multiple temperatures

Auxiliary chucks

- High voltage 10 kV compatible multi-purpose mounts for substrates (cleaning, contact)
- Automated probe cleaning capabilities

Manual mode stage control

- Intuitive manual chuck XY stage controls in semi-automatic engineering mode
- Safe mode: automatically disables manual controls in automation mode

Precision 200 mm motorized wafer stage

- New user-selectable performance modes for standard, fast and high accuracy
- Increased test throughput with up to 100 mm/sec. speed
- High reliability 24/7 operation

Scalable system

- In-field upgradable wafer loading and automation
- Add test accuracy improvements for increased test performance

Patented TESLA chuck technologies

- HV FemtoGuard(R) 3kV (triax) / 10kV (coax), and low leakage
- Gold-plated MicroVac(TM) surface for minimal chuck-to-wafer contact resistance
- 3kV, coaxial, and high current (600A) options
- Wide range of temperature options from -55°C to 300°C and higher
- Specialty chucks for +400°C, and low inductance / Cap(res) for UIS (unclamped inductance switching)

Compact small footprint

- Integrated vibration isolation for reliable small pad probing
- Integrated system electronics with power loss wafer safety protection

