



Versatile and
precise solutions
for Process
Qualification –
Wafer Level
Reliability

Cascade Microtech 200mm and 300mm probe stations can cover the full range of WLR and Process Qualification tests. Designed-in laboratory grade performance and flexibility assures the capability of making even the most challenging electrical WLR measurements.



Innovating Test
Technologies®

On-Wafer Reliability Solutions

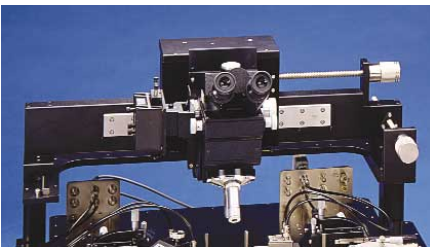
With new materials and shrinking device geometries, IC and process reliability is highly dependent on a proper understanding of the underlying reliability physics – high quality measurement data is critical.

Built for un-compromised electrical measurement performance by the world leader in lab characterization probing – Cascade Microtech systems have the features necessary for exploring even the most difficult to measure process qualification and reliability parameters.

Broad Capability

A typical suite of reliability tests encompasses a diverse group of on-wafer measurements. For Time Dependent Dielectric Breakdown (TDDB) measurements, concurrent touchdown on multiple test devices is desirable for higher productivity and throughput.

On the other hand, detection of low-level oxide soft breakdown parameters requires a well engineered, low-leakage, low-noise probing system. With Cascade systems you are assured the flexibility and performance to cover all your on-wafer device measurement needs.



Large area microscope bridge supports 6 x 8 inch probe tip viewing area for multi-site probe cards



Innovating Test Technologies® for better measurements faster

Typical WLR Tests

Characteristic	Test	Problem	Solution
V _{th} Stability	PMOS NBTI (negative bias temperature instability)	Requires measurements at maximum operating temperature	Low-noise, hi-temp multi-site probe cards
Hot-Carrier Injection(HCI)	Charge Pumping (Icp)	Wafer chuck adds noise to bulk-substrate current	Ultra low-noise injection thermal chucks
Ionic Contamination	Triangular Voltage Sweep (TVS) 300°C	Noisy and unreliable probes	Hi-temp, low-noise ceramic probes
Oxide Integrity – Soft Breakdown	SILC	Low leakage levels difficult to measure	Ultra-low level measurement capability
Oxide Integrity	Single site Time Dependent Dielectric Breakdown (TDDB)	Time-consuming stress intervals	Multi-site probe card support – Up to 54 sites

Features

- Multi-site probing for parallel TDDB tests
- Probes and probe card support to 300°C
- Low electrical noise wafer temperature control
- Large area microscope travel: 6 x 8 in.
- MicroChamber® measurement enclosure
- AttoGuard® integrated guard shield

Benefits

- Higher productivity – parallel device stress/test
- Minimizes spurious substrate currents
- High measurement integrity to 300°C
- Resolve ultra-low gate currents
- Precision substrate current measurement



Test system connection ready

Ordering Information

200mm semiautomatic, thermal probe station with MicroChamber, AttoGuard.....Summit 12861

200mm semiautomatic, thermal probe station with MicroChamber, 300°C capable....Summit 12751-HT

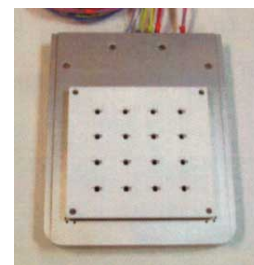
300mm semiautomatic, thermal probe station with MicroChamber, AttoGuard.....S300-861

Hi-temperature bladed probeDCP-HTR

Multi-site high temp probe cardsContact Factory

Large area microscope bridge for Summit 11000/12000114-468

Large area microscope bridge for S300 300mm prober118-492



Probe multiple sites at high temperature

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WLR-DS-1002
Data subject to change without notice