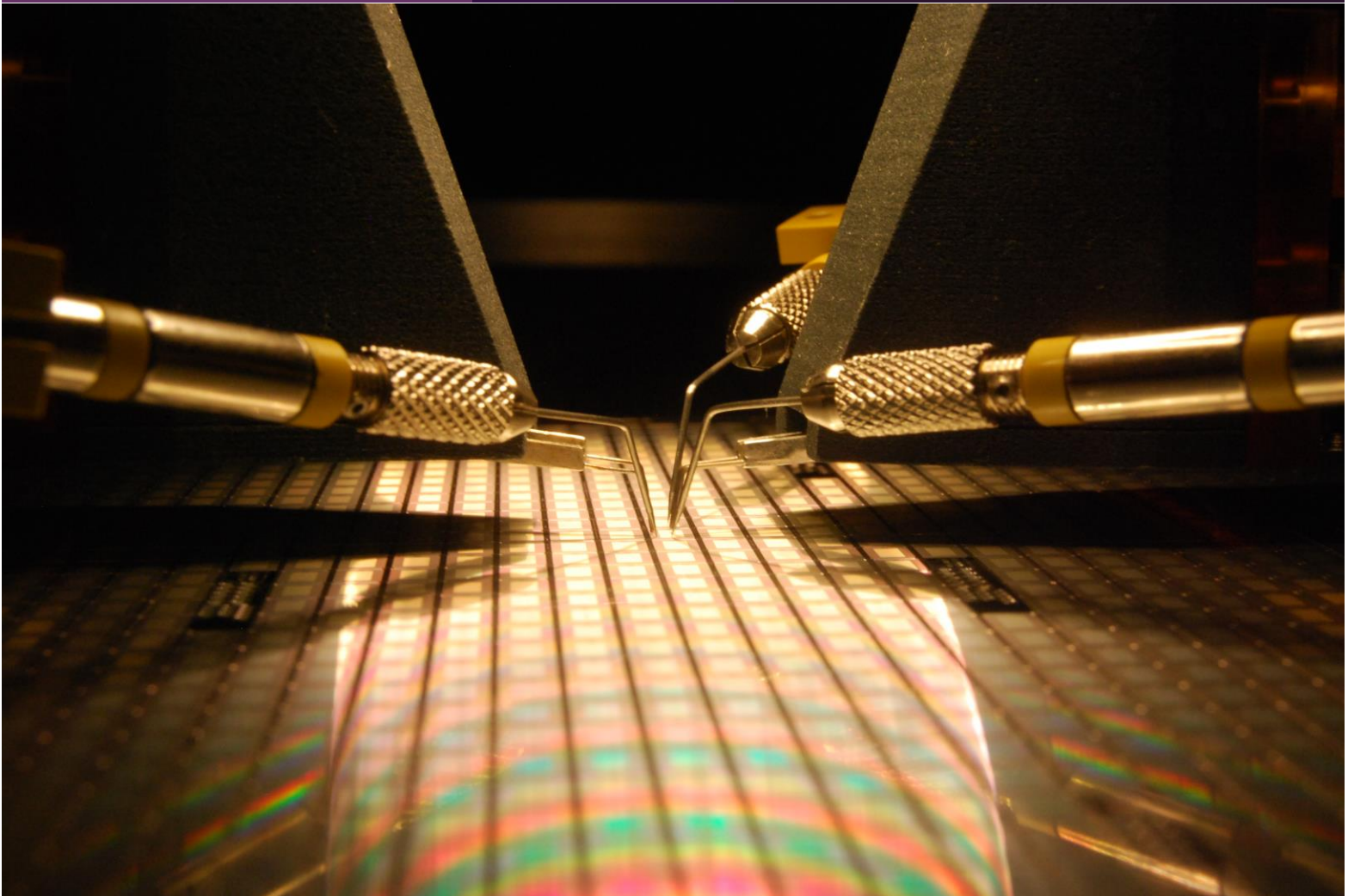


# SIGNATONE POWERPRO

Probe Stations

An all-around high power probing solution  
for the power electronics industry

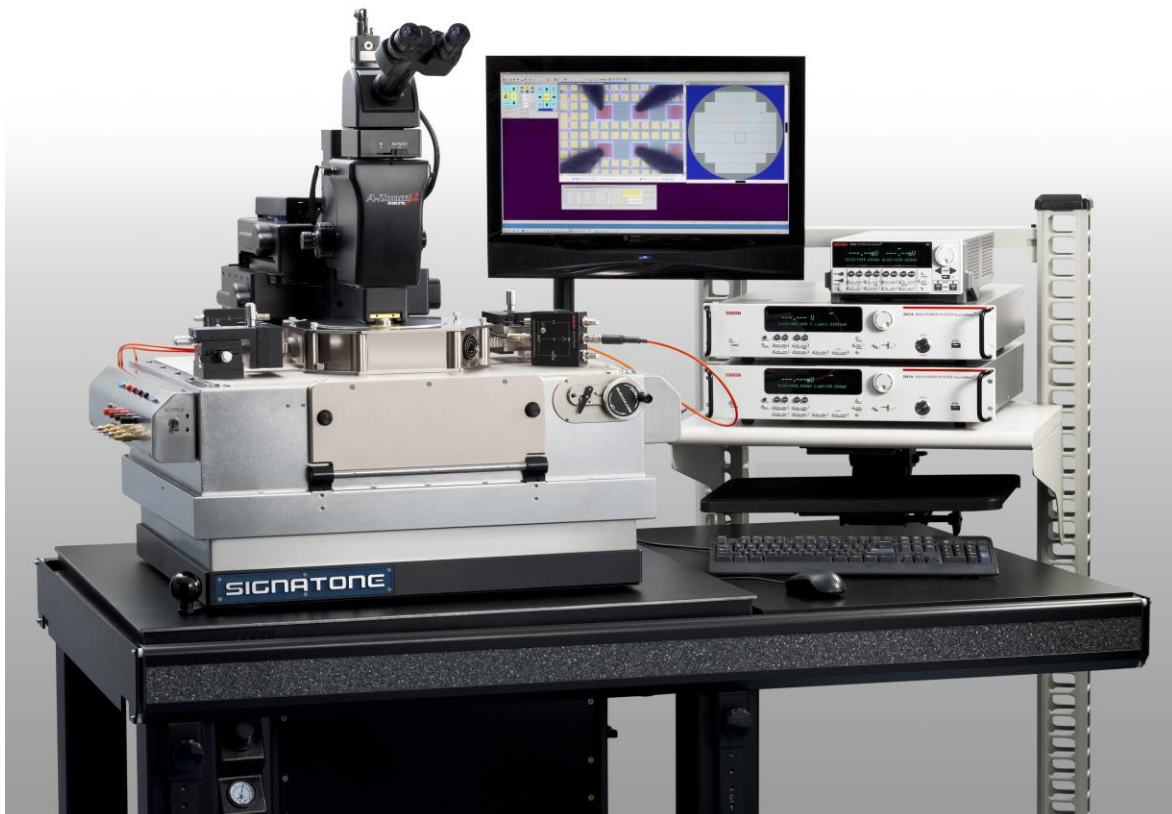


**For years** the only way for power semiconductor scientists and engineers to characterize their devices is at package level. While packaging is an available and mature technology, it invariably incurs cost and time for each batch of devices to be characterized. With Signatone PowerPro solutions, users now can probe their wafer up to 3kV triax/10kV coax, and 100A pulsed/10A DC for off-state, on-state, and current collapse characterizations.

For on-state measurement, the PowerPro provides users the option of pad-level Kelvin probing on one integrated probe, a capability that's unparalleled in the industry! The innovative and unique design provides the flexibility to adjust probe size and X-Y-Z position for evolving pad designs.

For off-state measurement, the high voltage probe provides integrated tri-axial capability for best high voltage and low current measurement. Both high current and high voltage probes utilize replaceable tips for minimal interruptions to user's measurements.

Special high power chucks are designed for safe high power and low noise measurement in ambient or at-temperature operation. VersaPath chuck switch system is an innovative approach that provides added safety and easy transition among floating, grounding, high voltage bias or high current bias states. Anti-arcing solution and a reliable interlock-integrated and shielded test environment are all part of the comprehensive PowerPro solutions. Tiered solution packages give users the flexibility to acquire the solution level that fits them best.

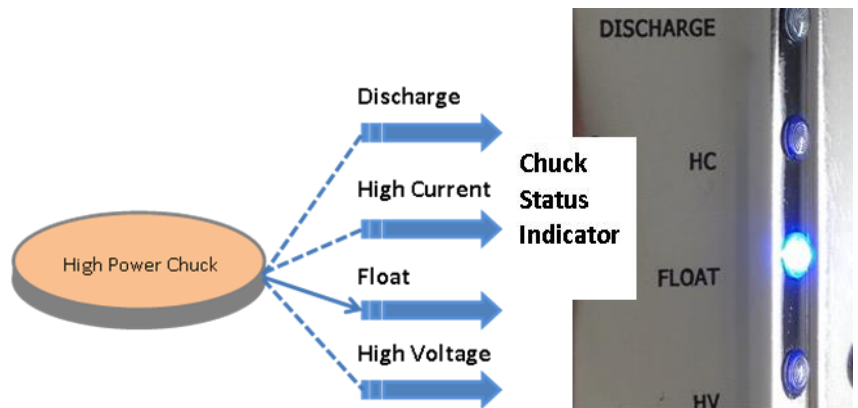
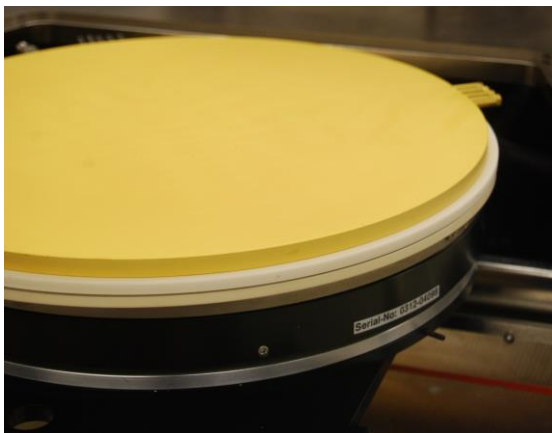


With sub-micron resolution wafer movement, users can align most any DUT geometry for testing. Linear platen adjustment accommodates a variety of set-up fixtures and probe combinations. The local chamber can accommodate up to 8 probe manipulators. Shielded measurement environment provides safety for operator and prevent EMI interference of measurement signals. Based on versatility and simplicity design concept, PowerPro boasts superior ease-of-use and best-in-class value and performance.

PowerPro utilizes chucks that are specifically designed to meet the challenges of probing power semiconductor wafers. Gold plated surface and zoned vacuum patterns provide

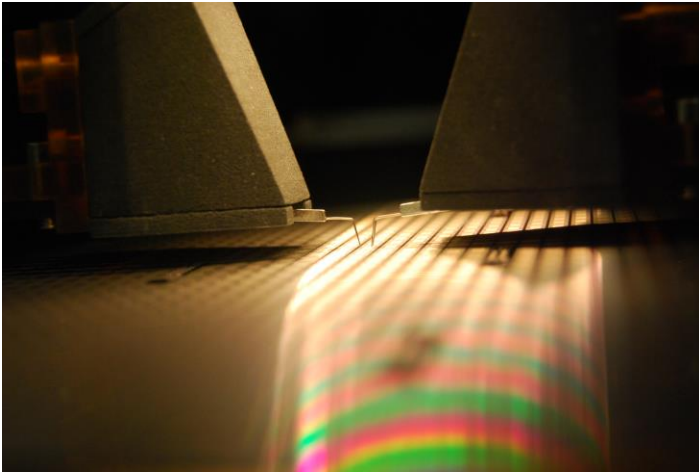
excellent chuck contact to the backside of thin wafers that is difficult to hold down by regular chucks. Kelvin connections for high current and high voltage signals ensure best results for both on-state and off-state measurements.

VersaPath chuck switch system allows users to go from on-state measurements to off-state measurement, or other status, by the flick of a switch (manual or software-controlled) when the chuck is used as one of the contacts to devices. This is a great convenience and efficiency to users. VersaPath also works as a quick discharge prior to wafer retrieval, which is an added safety feature in the PowerPro solution.

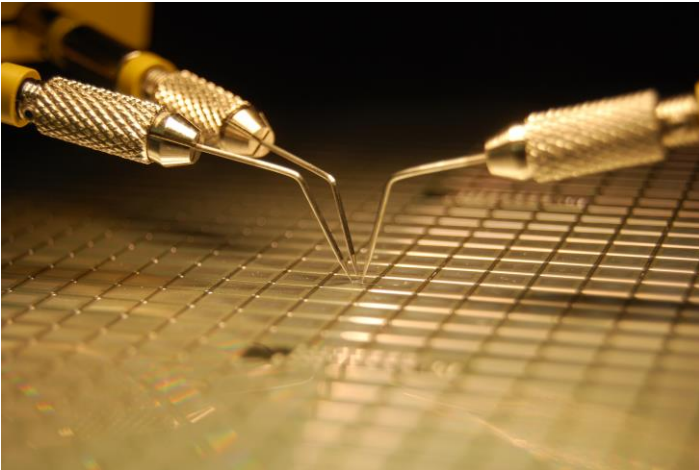


PowerPro utilizes gold plated chuck with excellent insulation layers for minimal contact resistance and best high power safety

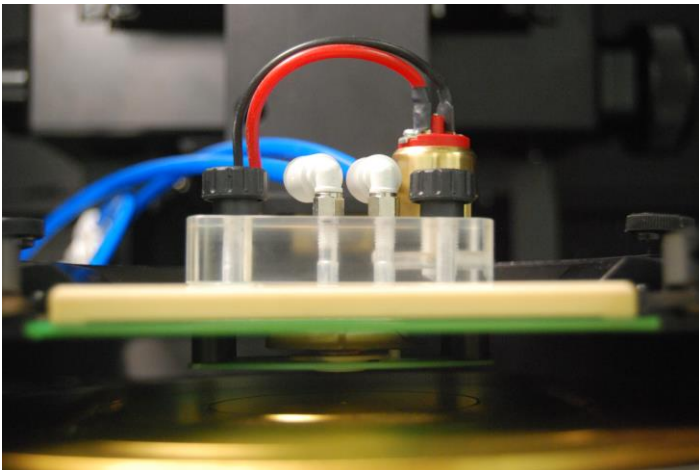
VersaPath enables easy transition among various chuck states for high voltage/high current testing, or grounding the chuck



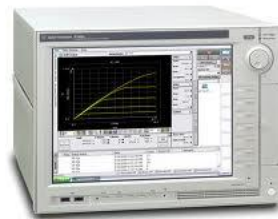
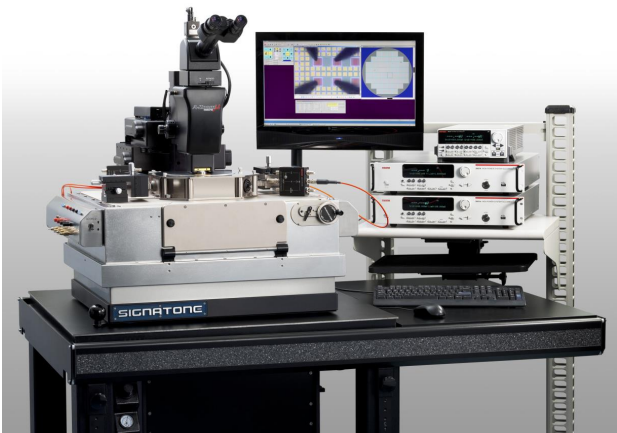
The Kelvin-capable HCP high current probe is the only probe design of this type in the industry today. The multi-probe design distributes current among the contact points and heat sink remove heat from probe-pad interface to prevent overheating. The design also gives users the ability to have Kelvin access to device at the pad level with minimal hardware investment. Only one set of positioner/probe head is required for each device terminal for Kelvin capability.



The demands of off-state measurements require that signal path, from instrumentation to wafer, supports voltage in the thousand volts, and leakage below nA or even at pA level. PowerPro HVP high voltage probe utilizes materials with proper isolation resistance and dielectric strength and, together with its triaxial design, will ensure operation safety and excellent measurement quality.



Anti-arcing probe card utilizes air-bearing chamber technology with compressed Clean Dry Air (CDA) to suppress arcing phenomena. This is a cleaner and more cost effective approach than conventional liquid arcing suppressor.



Ready to integrate with Keithley, Agilent , STI, or Tektronix instrumentations

## PowerPro System Configuration Guide

Typical Probe Station Platforms ‡	WL350	WL210e	CM170
Temperature Range‡	Ambient, Ambient to 300°C, -55°C to 300°C	Ambient, Ambient to 300°C, -55°C to 300°C	Ambient, Ambient to 300°C
Chuck Power Handling (3kV triax/10kV coax, 400A pulsed/10A DC)	●	●	●
HVP-CX-3 3kV coax high voltage probe	●	●	●
HVP-TX-3 3kV triax high voltage probe	●	●	●
HVP-10 10kV coax high voltage probe	●	●	●
HCP 100A Kelvin high current probe	●	●	●
VersaPath Chuck Switch System	●	●	●
Safety Interlock Integration	local chamber	local chamber	protective safety dark box
System Interface Panels(HV/HC)	●	●	●
Chuck Cabling Kit	●	●	●
PR Zoom Digital Imaging System	●	-	-
Contact Verification System	●	○	○
High Power Probe Card Integration Kit	●	●	●

● Feature available/applicable on platform.

○ This feature is dependent on meter used.

‡ Other platforms/ranges available, please inquire.

- This feature is not applicable on platform.

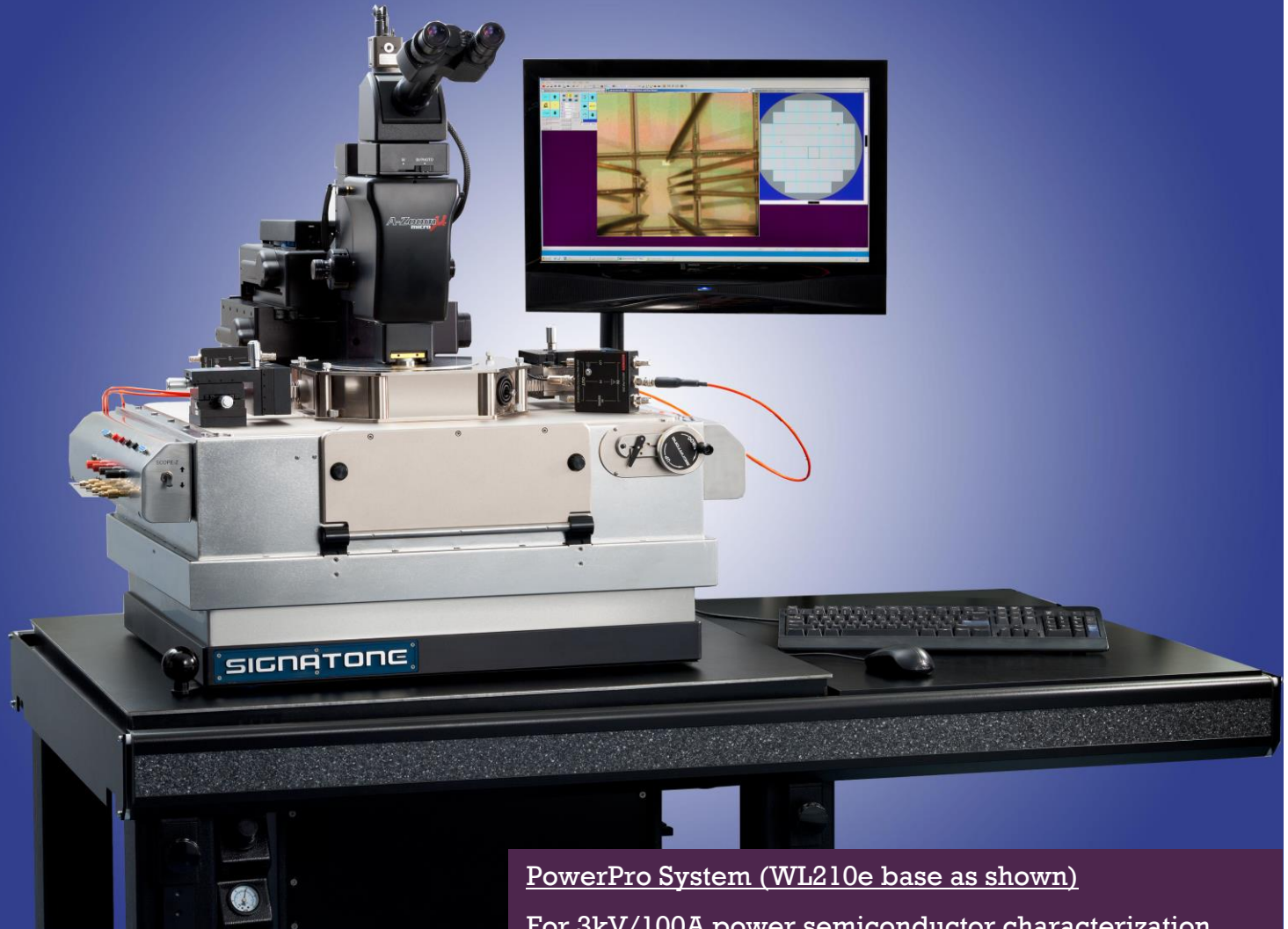
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PowerPro System (WL210e base as shown)

For 3kV/100A power semiconductor characterization

High power thermal chuck -55°C to 300°C

Built-in safety interlock

Manual/Semi-automatic systems available