S530

Semiconductor Parametric Test Systems

Cost-effective, high throughput solutions

- Low acquisition cost; low cost of ownership
- Round-the-clock productivity
- Readily adaptable to new devices and test requirements
- Fast, flexible, interactive test plan development
- Wide range of configuration and measurement options

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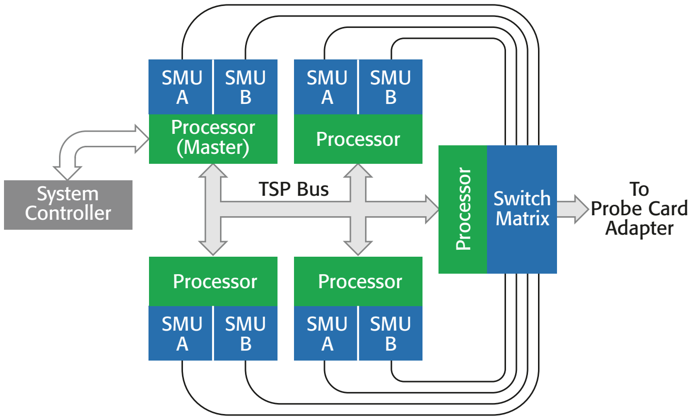
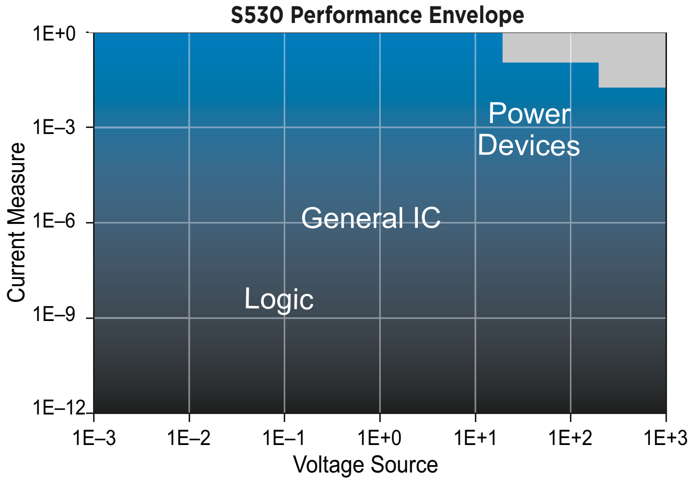
S530 systems combine the speed and low acquisition cost your test floor demands today. . .

Traditional "big iron" parametric testers are fine for ultra-high-volume fabs that only test a limited number of processes and products using lower voltages and currents. But for a growing number of fabs, they're simply too expensive and too inefficient, and do not provide the higher voltages needed for a wide range of power devices. Today's high mix, lower volume fab environments demand flexible systems designed to switch quickly from testing one product or technology to another. Keithley's S530 Parametric Test Systems embody the knowledge and expertise we've acquired over the last four decades in cost-effective, high throughput semiconductor testing.



Engineered for production parametric test



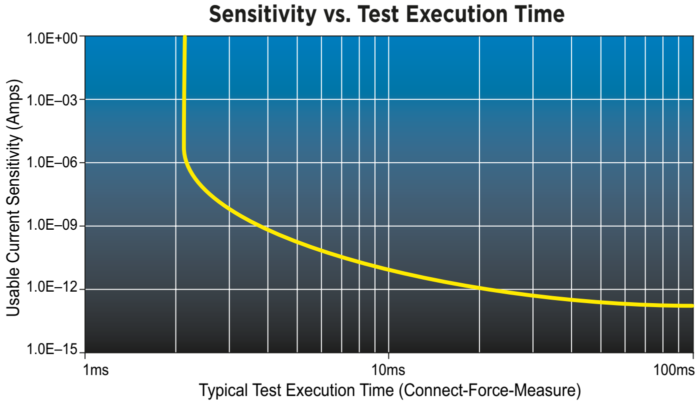
Ideal for high mix test floors

Keithley's production-qualified source measurement units (SMUs) speed and simplify DC I-V testing, ensure high accuracy and repeatability, and extend hardware life. Measurement commands for the S530 work in conjunction with the embedded Test Script Processor (TSP®) in each SMU and in the switch matrix, as well as with the high speed bus that links the SMUs and switch together. The result is tight hardware-level coordination among these key system components and impressive system speed.

S530 systems can test high power devices without compromising the sub-picoamp sensitivity needed to monitor mainstream device processes. All the standard SMUs built into S530 systems offer twice the voltage capability and ten times the current capability of "big iron" testers with medium power 2W SMUs, which can't match the S530 systems' range of applications.

S530 testers combine industry-proven source-measure capabilities, flexible test plan development tools, and unique low current and high voltage switching to support testing a broad range of device technologies—from mainstream silicon MOSFET logic and general-purpose I/O FETs/BJTs to high power output drivers.

Optimized for high power device testing, the S530 High Voltage option is the only parametric tester on the market that can source up to 1kV to any probe card pin on up to 24 pins. That lets you make high voltage, low voltage, and C-V measurements in a single pass for faster, more efficient characterization of high power structures or devices. To minimize the risk of high voltage damage to sensitive instrumentation, Keithley protection modules safeguard these instruments without compromising their low-level sensitivity.

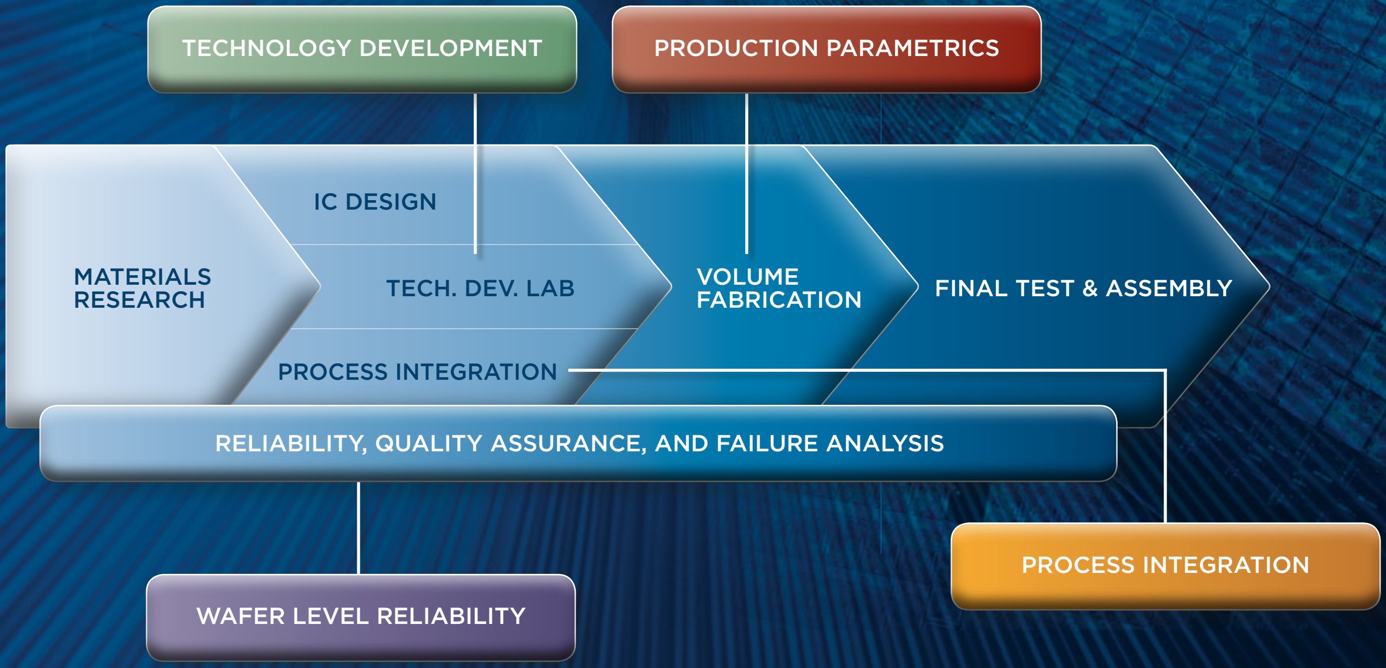


Speed and power without sacrificing sensitivity

A comprehensive set of safety features, including emergency off (EMO) and system interlock, is built into every S530 system.

. . . with the low cost of ownership, flexibility, and adaptability you'll need tomorrow.

Adaptable to a variety of test applications and environments. Although S530 systems are optimized for production parametric test, they are readily adaptable to other automated test applications, especially those in technology development, process integration, and wafer level reliability test environments.


TECHNOLOGY DEVELOPMENT
PRODUCTION PARAMETRICS
MATERIALS RESEARCH
IC DESIGN
TECH. DEV. LAB
PROCESS INTEGRATION
VOLUME FABRICATION
FINAL TEST & ASSEMBLY
RELIABILITY, QUALITY ASSURANCE, AND FAILURE ANALYSIS
WAFER LEVEL RELIABILITY
PROCESS INTEGRATION

S530 system configuration options

- Customizable for low current and high voltage applications
- Up to 8 SMUs
- Up to 48 pins full Kelvin (remote voltage sense)
- C-V meter (up to 1MHz)
- Pulse sourcing
- Frequency measurements
- Model 9139A Probe Card Adapter

Compliant with industry standards

S530 systems include a rich set of production qualifications, including built-in diagnostics, system specifications to the probe card, and compliance with all key semiconductor production standards, including CE (EU safety and health and environmental requirements), Semi S2 (safety guidelines for semiconductor manufacturing equipment), and S8 (safety guidelines for ergonomics/human factors engineering).

Comprehensive system diagnostics for long-term reliability

Built-in systems diagnostics verify overall system functionality quickly and easily. They include configuration verification, communications pathway tests, signal pathway testing, probe card adapter (PCA), and SMU source-measure tests. The diagnostics process can detect and localize a wide range of system problems, speeding troubleshooting and ensuring long-term reliability and system uptime.

Installation, maintenance, and calibration services

Keithley's worldwide network of service and applications professionals can offer expert support services ranging from initial installation and probe station integration to test plan migration, repair, and calibration services. Service contracts are available to maximize system utilization and uptime while minimizing your long-term cost of ownership. Your Keithley representative can provide details on services and contracts.

Your next step

To learn more about how the S530 can help your fab test more cost-effectively and adapt quickly to changing test requirements, visit our website at www.keithley.com and download a data sheet, complete system specifications, or other product literature. Call us toll free at 1-888-KEITHLEY (534-8453) (US only) or contact your local Keithley sales office (listed below) and ask to speak with one of our parametric test specialists.

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