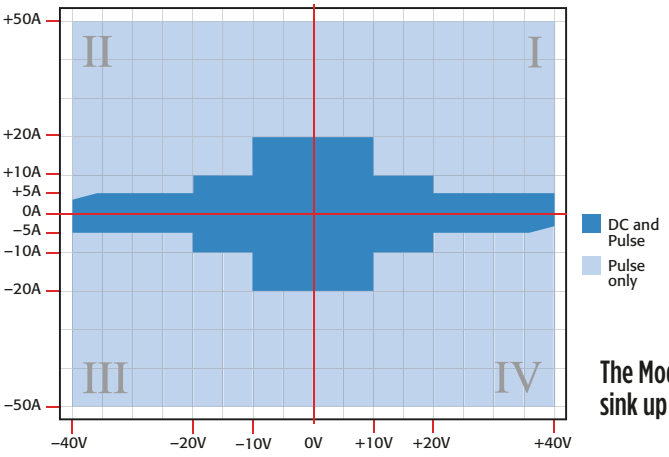
Get **Breakthrough** Capabilities and **Unmatched** Performance for Characterizing and Testing High Power, High Current Electronics

PRODUCTION ■ RESEARCH & DEVELOPMENT ■ RELIABILITY

Keithley's **NEW Model 2651A High Power System SourceMeter® Instrument** lets you characterize and test today's challenging high power electronics with unprecedented power, precision, speed, flexibility, and ease of use. This newest member of Keithley's popular Series 2600A family of System SourceMeter instruments improves productivity in applications across R&D, reliability, and production environments testing power semiconductors, LEDs, materials, and other high power devices.



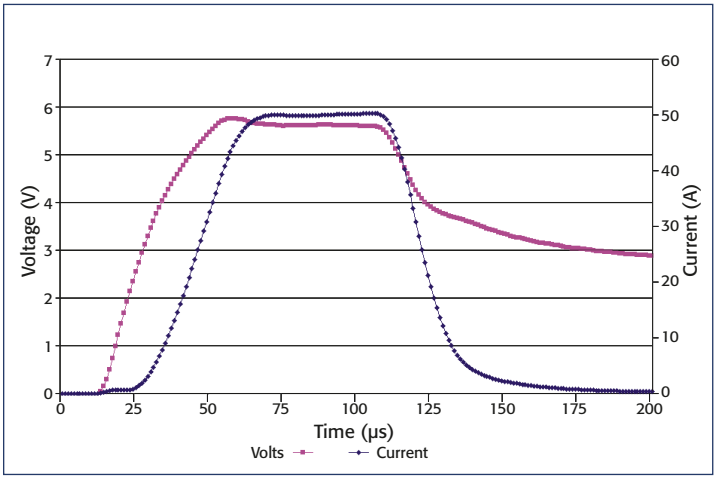
The Model 2651A can source and sink up to ±40V and ±50A.

- **Source or sink:**
  - 2,000W of pulsed power (±40V, ±50A)
  - 200W of DC power (±10V @ ±20A, ±20V @ ±10A, ±40V @ ±5A)
- **Easily connect two units, in series or parallel, to create solutions up to ±100A or ±80V**
- **1pA current resolution ensures precise measurements of very low leakage currents**
- **1µV voltage resolution (and current sourcing up to 50A) enables low-level Rds measurements to support next-generation devices**
- **Combines the functionality of all these instruments in one compact box (2U high):**
  - Semiconductor characterization instrument
  - V or I waveform generator
  - V or I pulse generator
  - Precision power supply
  - True current source
  - Digital multimeter (DCV, DCI, ohms, and power with 5½-digit resolution)
  - Electronic load
  - Trigger controller

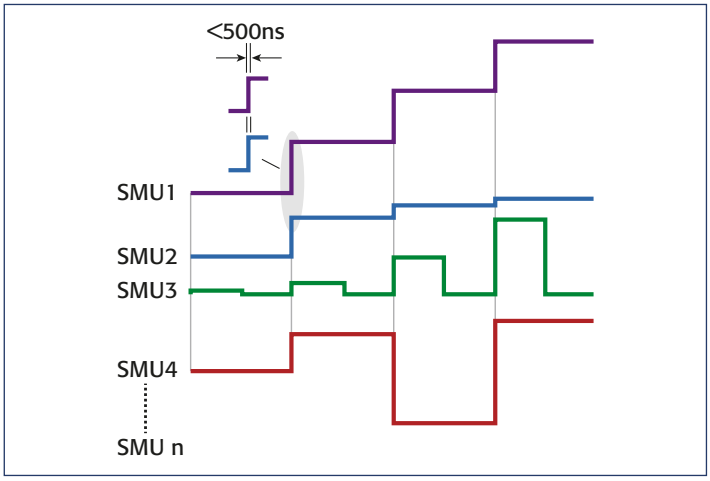
Breakthrough Features	Benefits
■ 2 measurement modes: Digitizing mode with 18-bit A/D converters	Captures transient behavior such as changing thermal effects with 1µs per point (1MHz) sampling
Integrating mode with 22-bit A/D converters	Provides extremely accurate and repeatable measurements
■ Dual A/D converters for each measurement mode	Enable full simultaneous characterization and measurement of both current and voltage waveforms
■ Fully isolated, independent channels with 500nSec synchronization	Provide easier, faster, and more flexible connection and grounding schemes that enable true SMU-per-pin testing
■ Industry's broadest dynamic range for current sourcing and measurement: 1pA to 50A (100A with two units)	Tests a wider range of power semiconductors and other devices

Supports today's challenging applications with ease:

- **Power semiconductor, HBLED, and optical device characterization and testing**
- **Characterization of GaN, SiC, and other compound materials and devices**
- **Semiconductor junction temperature characterization**
- **High speed, high precision digitization**
- **Electromigration studies**
- **High current, high power device testing**



Two A/D converters are used with each measurement mode (one for current and the other for voltage) and run simultaneously for accurate source readback that does not sacrifice test throughput.



When used in a system, all Series 2600A channels are synchronized to under 500ns to enable true SMU-per-pin operation without the power or channel limitations of a mainframe.

Minimize thermal effects and accurately characterize semiconductor junction temperature effects

- Accurately source and measure pulses as short as 100µs along with the ability to program pulse widths from 100µs to DC, rise times from 25µs, and duty cycles from 1% to 100%.
- Capture rapidly changing phenomena with 1,000,000 readings/second, continuous 1µs per point sampling.

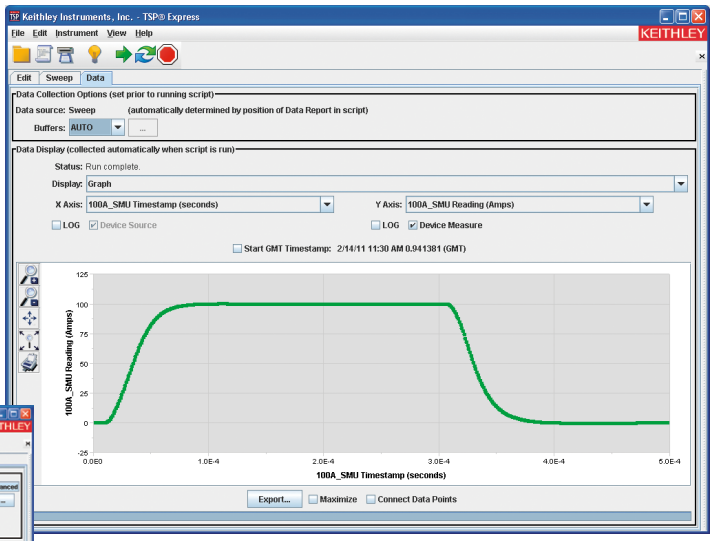
Improve test reliability and repeatability

Precision timing and tight channel synchronization have become critical in today's test requirements. The Model 2651A includes a high performance trigger model that precisely controls the timing at each source-measure step. It also tightly synchronizes the operations between channels and/or other Series 2600A instruments at hardware speeds of <500ns with TSP-Link.® What's more, true SMU-per-pin testing prevents the distortion of measurement and load signals. These functions can help you improve throughput, reduce effects that could damage the DUT, and provide highly accurate and dependable results.

From basic to advanced tests, set-up is quick and easy with TSP Express.

Quickly & easily perform I-V tests

The TSP® Express software tool performs common I-V tests without programming or installing software. The embedded Test Script Processor (TSP®) allows the creation of custom user scripts that can be run by the instrument to further automate testing.



This TSP Express measurement screen illustrates the 100A pulse capability achieved using two Model 2651A units connected in parallel. Data can be viewed in either graphical or tabular format and then exported to a .csv file for use with spreadsheet applications such as Excel.

A GREATER MEASURE OF CONFIDENCE

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