

# SOURCEMETER® SMU INSTRUMENTS

Keithley Instruments' SourceMeter® SMU instruments source current or voltage and simultaneously measure current, voltage and resistance with high speed and accuracy. SourceMeter® SMU instruments offer a smart alternative to separate power supplies and DMMs, saving money and limited test bench space.



	SERIES 2400 GRAPHICAL BENCH SOURCEMETER SMU INSTRUMENTS	SERIES 2400 BENCH SOURCEMETER® SMU INSTRUMENTS	SERIES 2600B SYSTEM SOURCEMETER® SMU INSTRUMENTS	2650A HIGH POWER SYSTEM SOURCEMETER® SMU INSTRUMENTS	2450/2460-EC GRAPHICAL POTENTIATIONSTATS
<b>Channels</b>	1 (optional expansion to 32 via TSP-Link®)	1	1,2,4 (optional expansions to 64 via TSP-Link®)	1 (optional expansion to 32 via TSP-Link®)	1
<b>Accuracy</b>	6½-digit measurements	6½-digit measurements	6½-digit measurements	6½-digit measurements	6 ½-digit measurements
<b>Max. Readings / Second</b>	Up to 1,000,000	2,000	20,000	38,500 1µSec/pt., 18-bit digitizer	3000
<b>Interface</b>	GPIO, USB 2.0, LXI/Ethernet, Digital I/O	GPIO, RS-232, Digital I/O	GPIO, LAN (LXI), USB, RS-232, Digital I/O	GPIO, LAN (LXI), RS-232, Digital I/O	GPIO, USB 2.0, LXI/Ethernet, Digital I/O
<b>Application Features</b>	Capabilities of analyzers, curve tracers, and I-V systems at a fraction of their cost; touchscreen and icon menu; built-in graphing	Convenient DMM-like user interface; 2/4/6 wire resistance with force I or V source modes, V-Force from 10V to 1.1KV, 10pA to 5A cont., 10A pulsed, 2W to 110W	True multi-channel parallel test via TSP-Link. Up to 0.1 fA resolution.	2 pairs of A/D converters for simultaneous V and I measurement; up to 2000W pulsed power	Perform Cyclic, Squarewave, or Galvanic Voltammetry, Chronoamperometry, and Chronopotentiometry
<b>Test Sequencing/Scripting</b>	TSP® (Test Script Processing) technology embeds complete test programs inside the instrument for unmatched system-level speed	Built-In ramp generator and list sweep modes, 100 point global machine state sequencer for fast test setup and execution	TSP® (Test Script Processing) technology embeds complete test programs inside the instrument for unmatched system-level speed	TSP® (Test Script Processing) technology embeds complete test programs inside the instrument for unmatched system-level speed	TSP® (Test Script Processing) technology embeds complete test programs inside the instrument for unmatched system-level speed
<b>Software</b>	Test Script Builder and KickStart Instrument Control Software, LabVIEW and IVI drivers	LabVIEW and IVI drivers	Built-in, web browser-based characterization software, KickStart Instrument Control Software, LabVIEW and IVI drivers	Built-in, web browser-based characterization software, LabVIEW and IVI drivers	Test Script Builder, Pre-loaded application scripts, LabVIEW and IVI drivers

## CHOOSING YOUR SOURCE MEASURE (SMU) INSTRUMENT

A SMU instrument integrates precision power supply and digital multimeter (DMM) capabilities in one instrument while covering a wide dynamic range. SMUs source and measure simultaneously, making them ideal for characterizing and testing semiconductors and other non-linear devices and materials.

### 1 System-Level Speed or Throughput

The true measure of speed is how quickly a final measurement or set of measurements (such as a suite of current vs. voltage parameters) is returned to the PC controller. This involves not only the number of readings/second, but also range and function change times.

### 2 Sourcing Resolution and Output Stability

An SMU's usable maximum resolution depends on its overall accuracy and the resolution of its analog-to-digital converter (ADC). In general, the higher the resolution, the higher the bit count on the ADC and the higher the accuracy.

### 3 Measurement Settling Time, Offset Error, and Noise

When choosing between instruments, compare the time it takes a SMU to settle the specified offset error. This can be seen in the "bumpiness" of the resulting data curve, which indicates measurement noise; the smoother the data curve the less measurement noise. SMUs having a fast, flat, and noise-free settling time achieve more consistent results during a series of measurements taken over time.

### 4 Cabling

Triaxial cables offer significant advantages over coaxial cables when making low current measurements. Triaxial cables have an extra shield that ensures lower leakage, better response, and greater noise immunity.



## 2450/2460/2461 Graphical Touchscreen

Touch, Test, Invent® with the intuitively smart, interactive SMU Instruments. The 2450, 2460, and 2461 SMU Instruments are innovative, compact I-V solutions that offer the capabilities of I-V systems, curve tracers, and semiconductor analyzers at a fraction of their cost. With the intuitive touchscreen and icon-based control that novice SMU users can appreciate and the exceptional versatility that experienced users need, these graphical user interface instruments **enable users to learn faster, work smarter, and invent easier.**

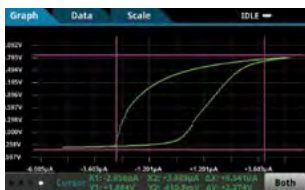
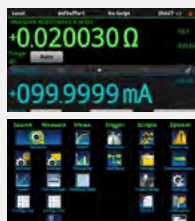
## A Smart Toolkit Beyond the Touchscreen

Speed, ease of use, and learnability does not stop with the advanced touchscreen. Each instrument's front panel features a context-sensitive HELP system, rotary navigation/control knob, front/rear input selector button, and banana jacks for basic bench applications. A USB 2.0 memory I/O port makes it easy to store data, save instrumentation configurations, load test scripts, and upgrade the system.

### TYPICAL APPLICATIONS

The Series 2400 are ideal for I-V functional test and characterization of a wide range of today's modern devices, including: Low and High Power Semiconductors; LEDs, High Brightness LEDs; Solar Cells, Solar Panels; Nanomaterials and Devices; Graphene; Printed/Flexible Electronics; Batteries/Electrochemistry; Sensors; Biotechnology

- Highly flexible, source and sink (four-quadrant) operation simultaneously measures voltage, current, and resistance in a single, integrated I-V instrument.
- Advanced, five-inch touchscreen user interface with multi-point, pan-pinch-zoom-swipe operation minimizes the learning curve and improves productivity
- Graphical interface provides I-V curve tracing functionality for much less than the cost of traditional curve tracers.
- Lower current and voltage measurements ranges (100 nA, 10 nA, 20 mV) reduce need for additional expensive low level instruments (2450)
- High current and high power ranges (7 A, 100 W DC, 2460; 10 A, 1000 W Pulse, 2461) for characterizing and testing high power materials and devices
- Kickstart Instrument Control Software for the PC enables instrument control without programming. Download at [www.tek.com/keithley-kickstart](http://www.tek.com/keithley-kickstart).
- Four programming modes provide unmatched programming flexibility and system integration.
- Home page advanced source and measure display enables faster speed to answer.
- Icon-based, flat menu system can reduce configuration steps by 50% and eliminates cumbersome, multi-layer menu structures.



Built-in functions like real-time graphing, histogram charting, and scope-like cursors simplify converting test results into useful information.



## 2450/2460/2461 SourceMeter® SMU Instruments

The 2450, 2460 and 2461 are based on the trusted analog performance of Keithley's Series 2400 SourceMeter SMU Instruments and offer a highly flexible, four-quadrant voltage and current source/load coupled with precision voltage and current meters. These fourth-generation members of Keithley's award-winning SMU family provide the superior precision, resolution, accuracy, and dependability that users have come to expect from Keithley SMU instruments.

MODEL	2450, 2450-NFP <sup>1</sup> , 2450-RACK <sup>2</sup> , 2450-NFP-RACK <sup>3</sup>	2460, 2460-NFP <sup>1</sup> , 2460-RACK <sup>2</sup> , 2460-NFP-RACK <sup>3</sup>	2461, 2461-NFP <sup>1</sup> , 2461-RACK <sup>2</sup> , 2461-NFP-RACK <sup>3</sup>
Current Max / Min	1.000000 A / 10.00000 nA	7.000000 A / 1.000000 μA	10.00000 A / 1.000000 μA
Voltage Max / Min	200.0000 V / 20.00000 mV	100.0000 V / 200.0000 mV	100.0000 V / 200.0000 mV
Power	20 W	100 W	1000 W

<sup>1</sup>No Front Panel, <sup>2</sup>No Handle, <sup>3</sup>No Front Panel or Handle

- 4-quadrant design simultaneously sources and measures voltage, current, and resistance
- Advanced, five-inch touchscreen user interface with multi-point, pan-pinch-zoom-swipe operation
- Graphical interface enables I-V curve tracing functionality
- Lower current and voltage measurements (2450 range: 100 nA, 10 nA, 20 mV)
- High current/high power (ranges: 2460: 7 A, 100 W DC; 2461: 10 A, 1000 W Pulse)
- Front panel banana jack inputs and rear panel connections (triaxial connectors on 2450, mass terminated screw terminal on 2460/2416)
- GPIB, LAN (LXI), USB interfaces
- Kickstart Instrument Control Software for the PC enables instrument control without programming. Download at [www.tek.com/keithley-kickstart](http://www.tek.com/keithley-kickstart)

### SHIPS WITH PRODUCT

8608: High Performance Test Leads  
 2460-KIT: Rear Panel Mating Mass Terminated Screw Connector (2460/2461 only)  
 USB-B-1: USB Cable, Type A to Type B, 1m (3.3 ft)  
 CS-1616-3: Safety Interlock Mating Connector  
 174694600: TSP-Link®/Ethernet Cable (1.5 m)  
 User Documentation  
 QuickStart Guide  
 Test Script Builder Software (available at [www.tek.com](http://www.tek.com))  
 LabVIEW® and IVI Drivers (available at [www.tek.com](http://www.tek.com))

### RECOMMENDED ACCESSORIES

5805: Kelvin (4-Wire) Spring-Loaded Probes  
 5808: Low Cost Single-pin Kelvin Probe Set  
 8607: 2-Wire, 1000 V Banana Cables, 1 m (3.3 ft.)  
 CS-1616-3: Safety Interlock Mating Connector

### RECOMMENDED SERVICE

24XX-3Y-EW: 1-year factory warranty extended to 3 years from date of shipment  
 24XX-5Y-EW: 1-year factory warranty extended to 5 years from date of shipment  
 C/24XX-3Y-17025: KeithleyCare® 3-year ISO 17025 Calibration Plan  
 C/24XX-3Y-DATA: KeithleyCare® 3-year Calibration w/Data Plan  
 C/24XX-3Y-STD: KeithleyCare® 3-year Std. Calibration Plan  
 C/24XX-5Y-17025: KeithleyCare® 5-year ISO 17025 Calibration Plan  
 C/24XX-5Y-DATA: KeithleyCare® 5-year Calibration w/Data Plan  
 C/24XX-5Y-STD: KeithleyCare® 5-year Std. Calibration Plan

**LEARN MORE** Download "There's an Unsung Hero on Your Workbench"



## Series 2400 SourceMeter® SMU Instruments

Series 2400 SourceMeter® SMU instruments are single-channel models with I-V capability from 1100 V to 100 nV and 5.25 A to 10 pA. They offer a smart alternative to separate power supplies and digital multimeters (DMMs) and provide a convenient DMM-like user interface.

MODEL	2400 / 2401	2410	2440	2420
Current Max / Min	1.05 A / 10 pA	1.05 A / 10 pA	5.25 A / 100 pA	3.15 A / 100 pA
Voltage Max / Min	200 V / 1 μV (20 V 2401)	1100 V / 1 μV	40 V / 1 μV	Up to 60 V / 1 μV
Power	20 W	20 W	50 W	60 W

- Wide I-V range from 1100 V to 100 nV and 5.25 A to 10 pA
- 4-quadrant design simultaneously measures voltage, current, and resistance
- Remote sense on V-source and measure plus guarded ohms mode
- Built-In test sequencer
- IVI and LabVIEW drivers available (tek.com)
- Standard GPIB and RS-232 interfaces; Banana (front/rear) Connectors
- Kickstart Instrument Control Software for the PC enables instrument control without programming. Download at [www.tek.com/keithley-kickstart](http://www.tek.com/keithley-kickstart).

### SHIPS WITH PRODUCT

- 8605 Test Leads
- LabVIEW Software Driver (downloadable at [www.tek.com](http://www.tek.com))
- Calibration Certificate (Basic)
- User Documentation
- Power Cord
- Warranty

### RECOMMENDED ACCESSORIES

- 5804: Kelvin (4-Wire) Universal 10-Piece Test Lead Kit
- 5805: Kelvin (4-Wire) Spring-Loaded Probes
- 5809: Low Cost Kelvin Clip Lead Set
- 8607: 2-Wire, 1000 V Banana Cables, 1 m (3.3 ft)
- CA-18-1: Shielded Dual Banana Cable, 1.2 m (4 ft)
- 7007-1: Shielded GPIB Cable, 1 m (3.3 ft)
- 7007-2: Shielded GPIB Cable, 2 m (6.6 ft)
- KPCI-488LPA: IEEE-488 Interface/Controller for the PCI Bus
- KUSB-488B: IEEE-488 USB-to-GPIB Interface Adapter
- 8501-1: Trigger Link Cable, DIN-to-DIN, 1 m (3.3 ft)
- 8501-2: Trigger Link Cable, DIN-to-DIN, 2 m (6.6 ft)

### RECOMMENDED SERVICE

- C/2400-3Y-17025: (ISO-17025 accredited) calibrations within 3 yrs. of purchase for 2400\*
  - C/2401-3Y-17025: (ISO-17025 accredited) calibrations within 3 yrs. of purchase for 2401\*
  - C/2410-3Y-17025: (ISO-17025 accredited) calibrations within 3 yrs. of purchase for 2410\*
  - C/2420-3Y-17025: (ISO-17025 accredited) calibrations within 3 yrs. of purchase for 2420\*
- \*Not available in all countries.

**LEARN MORE** 📄 Download the White Paper “Choosing the Optimal Source Measurement Unit Instrument for Your Test and Measurement Application.”



## 2450-EC, 2460-EC, and 2461-EC Graphical Potentiostats

The 2450-EC, 2460-EC, and 2461-EC Potentiostats are versatile instruments, particularly well-suited for research and development in fundamental electrochemical lab research, characterizing the next generation of materials and electrolytes, new energy storage devices, and faster, smaller sensors. Each potentiostat comes preloaded with application tests to perform Cyclic Voltammetry, Chronoamperometry, and Chronopotentiometry.

MODEL	2450-EC	2460-EC	2461-EC
Current Max / Min	1 A / 10 nA	7 A / 1 μA	10 A / 1 μA
Voltage Max / Min	200 V / 20 mV	100 V / 200 mV	100 V / 200 mV
CV Scan Rate	0.1 mV/s to 3500 mV/s	0.1 mV/s to 3500 mV/s	0.1 mV/s to 3500 mV/s
Applications	Cyclic Voltammetry, Open Circuit Potential, Potential Pulse and Square Wave, Current Pulse and Square Wave, Chronoamperometry, Chronopotentiometry		

- Perform Cyclic, Squarewave, or Galvanic Voltammetry, Chronoamperometry, and Chronopotentiometry
- Simplified user interface for faster test setup and analysis of results
- Real-time plotting of voltammograms on the front panel
- Analytical graph cursors for immediate analysis of results without the need for a PC
- Create libraries of reusable, customizable experimental software with built-in open source scripting
- Screen capture function allows copying test results from the display to reports
- The 2450-EC can be easily connected to a 3-electrode cell.
- Built-in real-time graphing, charting, and scope-like cursors simplifies converting test results into useful information.

### SHIPS WITH PRODUCT

- Electrochemistry Translation Cable Accessory Kit
- 8608: High Performance Test Leads
- USB-B-1: USB Cable, Type A to Type B, 1 m (3.3 ft)
- CS-1616-3: Safety Interlock Mating Connector
- 174694600: TSP-Link/Ethernet Cable (1.5 m)
- User Documentation
- Application Test Scripts and Documentation
- Test Script Builder Software (available at [www.tek.com](http://www.tek.com))
- LabVIEW and IVI Drivers (available at [www.tek.com](http://www.tek.com))

### RECOMMENDED ACCESSORIES

- 5805: Kelvin (4-Wire) Spring-Loaded Probes
- 5808: Low Cost Single-pin Kelvin Probe Set
- 8607: 2-Wire, 1000V Banana Cables, 1 m (3.3 ft.)

### RECOMMENDED SERVICE

- 24XX-EC-3Y-EW: 1 Year Factory Warranty extended to 3 years from date of shipment
- 24XX-EC-5Y-EW: 1 Year Factory Warranty extended to 5 years from date of shipment
- C/24XX-3Y-17025: KeithleyCare® 3 Year ISO 17025 Calibration Plan
- C/24XX-3Y-DATA: KeithleyCare 3 Year Calibration w/Data Plan
- C/24XX-3Y-STD: KeithleyCare 3 Year Std. Calibration Plan
- C/24XX-5Y-17025: KeithleyCare 5 Year ISO 17025 Calibration Plan
- C/24XX-5Y-DATA: KeithleyCare 5 Year Calibration w/Data Plan
- C/24XX-5Y-STD: KeithleyCare 5 Year Std. Calibration Plan
- C/New Data: Calibration Data for New Units
- C/New Data ISO: ISO-17025 Calibration Data for New Units

**LEARN MORE** 📄 Download “Performing Cyclic Voltammetry Measurements Using 2450-EC or 2460-EC Electrochemistry Lab Systems” Application Note.



## Series 2600B System SourceMeter® SMU Instruments



Series 2600B SourceMeter® SMU instruments are the industry's most powerful, fastest, and highest resolution SMU instruments. Now they're easier than ever to use with USB 2.0 connectivity, 2400 software emulation, and Java-based plug & play test software. Series 2600B models offer the industry's widest dynamic range: 10 A pulse to 0.1 fA and 200 V to 100 nV.

MODEL	2601B	2602B	2604B	2611B	2612B
Current Max / Min	3 A DC, 10 A pulse/100 fA	3 A DC, 10 A pulse/100 fA	3 A DC, 10 A pulse/100 fA	1.5 A DC, 10 A pulse/100 fA	1.5 A DC, 10 A pulse/100 fA
Voltage Max / Min	40 V/100 nV	40 V/100 nV	40 V/100 nV	200 V/100 nV	200 V/100 nV
Max Readings / Sec	20,000	20,000	20,000	20,000	20,000
No. of Channels	1	2	2	1	2

MODEL	2614B	2634B	2635B	2636B
Current Max / Min	1.5 A DC, 10 A pulse/100 fA	1.5 A DC, 10 A pulse/1 fA	1.5 A DC, 10 A pulse/0.1 fA	1.5 A DC, 10 A pulse/0.1 fA
Voltage Max / Min	200 V/100 nV	200 V/100 nV	200 V/100 nV	200 V/100 nV
Max Readings / Sec	20,000	20,000	20,000	20,000
No. of Channels	2	2	1	2

- 4-quadrant design simultaneously sources and measures voltage, current, and resistance
- TSP® (embedded Test Script Processor) architecture enables industry-best system-level speed
- TSP-Link® for true SMU-per-pin and parallel test
- Download IVy mobile app for quick and easy device characterization. Available for iPhone, iPad and for Android devices.
- GPIB, LAN (LXI), USB and RS-232
- Kickstart Instrument Control Software for the PC enables instrument control without programming. Download at [www.tek.com/keithley-kickstart](http://www.tek.com/keithley-kickstart).

### SHIPS WITH PRODUCT

Operators and Programming Manuals  
 2600-ALG-2: Low Noise Triax Cable with Alligator Clips, 2 m (6.6 ft.) (two supplied with 2634B and 2636B, one with 2635B)  
 2600-Kit: Mating Screw Terminal Connectors with strain relief and covers (2601B/2602B/2604B/2611B/2612B/2614B)  
 174694600: TSP-Link®/Ethernet Cable (1.5 m) (two per unit)  
 Test Script Builder Software (download at [www.tek.com](http://www.tek.com))  
 LabVIEW Driver (downloadable at [www.tek.com](http://www.tek.com))  
 ACS Basic Edition Software (optional)  
 Download IVy mobile app for quick and easy device characterization. For iPhone, iPad and for Android devices from the App Store and from Google Play Store.

### RECOMMENDED ACCESSORIES

2600-BAN: Banana Test Leads Adapter  
 8606: Probe Kit for 2600-BAN

### RECOMMENDED SERVICE

26XXB-3Y-EW.: 3-Year KeithleyCare Gold Plan  
 26XXB-5Y-EW.: 5-Year KeithleyCare Gold Plan  
 C/26xxB-3Y-XXXX: Calibration Service 3 Years (17025 or DATA or STD)  
 C/26xxB-5Y-XXXX: Calibration Service 5 Years (17025 or DATA or STD)

**LEARN MORE** Download "Simplifying DC-DC Converter Characterization" Application Note.



## 2606B High Density SourceMeter® SMU Instrument

The 2606B High Density System SourceMeter (SMU) Instrument offers four 20-watt SMU channels in a 1U high form factor chassis. The 2606B improves density by 3 times and minimizes the need to add additional racks of test equipment. This SMU is the perfect solution for production testing of Laser Diodes, LEDs, 2- and 3-terminal semiconductors and much more.

MODEL	2606B
Current Max / Min	3 A DC, 3 A pulse/100 fA
Voltage Max / Min	20 V/100 nV
Max Readings / Sec	20,000
No. of Channels	4

- Four-channel stackable SMU instrument in a single 1U full rack chassis
- Incorporates the capabilities of two of the industry leading 2602B SMUs.
- Tightly-integrated voltage/current source and measure instruments offer best in class performance with 6½-digit resolution
- TSP technology embeds complete test programs inside the instrument for best-in-class system-level throughput
- TSP-Link expansion technology for multi-channel parallel test without a mainframe
- TSP technology executes complete test programs from the 2600B's non-volatile memory.

### SHIPS WITH PRODUCT

CA-180-16: LAN Crossover cable, 0.41 m (16 in.) (2 included); 174710700: Shielded CAT5 Crossover Cable for TSP-Link and direct Ethernet connection, 1.5 m (5 ft.); CA-568: Green and yellow ground cable, 3 m (120 in.); 2600-KIT: Eight-pin custom cable connector, cable housing, and strain relief (4 included); 7709-308A: 25-pin D-shell connector kit (for Digital I/O port) (2 included); 4299-13: 1U Fixed Rack Mount Kit (minimum 0.686 m (27 inches) rail depth required); Power Line Cord: Country Dependent; Test Script Builder Software: Download from [www.tek.com](http://www.tek.com); LabVIEW Driver: Download from [www.tek.com](http://www.tek.com); User's Manual: Download from [www.tek.com](http://www.tek.com)

### AVAILABLE ACCESSORIES

#### Cables and Connectors

2600-BAN: Banana Test Leads/Adapter Cable.  
 2600-KIT: Extra screw terminal connector, strain relief, and cover  
 2600-FIX-TRIAx: Phoenix-to-Triax Adapter for 2 wire sensing  
 2600-TRIAx: Phoenix-to-Triax Adapter for 4 wire sensing  
 7078-TRX-\*: 3-Slot, Low Noise Triax Cable, 0.3 m–6.1 m. Use with 2600-TRIAx Adapter \* = 1, 3, 5, 10, 12, 20 (for 0.3 m, 0.9 m, 1.5 m, 3.0 m, 3.5 m, 6.0 m respectively)  
 7078-TRX-GND: 3-Slot Male Triax to BNC adapter (guard removed)  
 7709-308A: Digital I/O Connector (model specific)  
 8606: High Performance Modular Probe Kit. For use with 2600B-BAN

#### Digital I/O, Trigger Link, and TSP-Link

2600-TLINK: Digital I/O to TLINK Adapter Cable, 1 m  
 CA-126-1A: Digital I/O and Trigger Cable, 1.5 m  
 174710700: Shielded CAT5 Crossover Cable for TSP-Link and direct Ethernet connection, 1.5 m (5 ft.)

### RECOMMENDED SERVICE

2606B-EW: 1 Year Factory Warranty extended to 2 years; 2606B-3Y-EW: 1 Year Factory Warranty extended to 3 years; 2606B-5Y-EW: 1 Year Factory Warranty extended to 5 years; C/2606B-3Y-STD: 3 Calibrations within 3 years C/2606B-5Y-STD: 5 Calibrations within 5 years; C/2606B-3Y-DATA: 3 Calibrations within 3 years and includes calibration data before and after adjustment; C/2606B-5Y-DATA: 5 Calibrations within 5 years and includes calibration data before and after adjustment; C/2606B-3Y-17025: 3 ISO-17025 accredited calibrations within 3 years; C/2606B-5Y-17025: 5 ISO-17025 accredited calibrations within 5 years.



## Series 2650A High Power System SourceMeter® SMU Instruments

The high current 2651A and high voltage 2657A High Power System SourceMeter SMU instruments address such applications as testing power semiconductor devices, including diodes, FETs, and IGBTs, as well as characterizing newer materials such as gallium nitride, silicon carbide, and other compound semiconductor materials or devices.

MODEL	2651A	2657A
Power Characteristics	Up to 50 A (or 100 A with 2 units) and up to 2000 W pulse / 200 W DC power	Up to 3,000 V and up to 180 W of power
4 Quadrant Source or Sink Capabilities	Up to $\pm 40$ V and $\pm 50$ A	Up to 3000 V @ 20 mA or 1500 V @ 120 mA
Resolution	100 fA/1 $\mu$ V	1 fA/100 $\mu$ V
Applications	High Current, High Power Device Testing	High Voltage, High Power, Low Current Device Testing

- Source and measure up to 3 kV or 50 A pulse, with best-in-class low current resolution
- Up to 2000 W pulse or 200 W DC power per instrument
- Optimized for characterizing and testing high power semiconductors, electronics, and materials
- TSP and TSP-Link technology enables SMU-per-pin parallel testing without the channel limits of a mainframe-based system.
- The dual digitizing A/D converters sample at up to 1  $\mu$ s/point, enabling full simultaneous characterization of both current and voltage waveforms.

### SHIPS WITH PRODUCT

7709-308A: Digital I/O and Interlock Connector

174694600: TSP-Link®/Ethernet Cable (1.5 m)

User Documentation

Test Script Builder Software (available at [www.tek.com](http://www.tek.com))

2651A-KIT-1A: Low Impedance Cable Assembly (1 m) (2651)

CS-1592-2: High Current Phoenix Connector (male) (2651)

CS-1626-2: High Current Phoenix Connector (female) (2651)

CA-557-1: Sense Line Cable Assembly (1 m) (2651)

### RECOMMENDED ACCESSORIES

2600-KIT: Low Impedance Cable Assemble, 1 m (3.3 ft)

ACS-BASIC: Component Characterization Software

4299-6: Rack Mount Kit

8011: Test Socket Kit

8010: High Power Device Test Fixture (2657A)

8020: High Power Interface Panel

2657A-LIM-3: Low Interconnect Module (2657A)

2657A-PM-200: 200V Protection Module (2657A)

SHV-CA-553-2: High Voltage Triax to SHV Cable (1, 2, 3m) (2657A)

HV-CA-554-2: High Voltage Triax to Triax Cable (0.5, 1, 2, 3m) (2657A)

HV-CA-571-3: High Voltage Triax to Unterminated Cable (2657A)

HV-CS-1613: High Voltage Triax Feedthrough Connector (2657A)

### RECOMMENDED SERVICE

2651A-3Y-EW: 3-Year KeithleyCare Gold Plan

2657A-3Y-EW: 3-Year KeithleyCare Gold Plan

C/2651A-3Y-STD: KeithleyCare 3-Yr Std Cal Plan

C/2657A-3Y-STD: KeithleyCare 3-Yr Std Cal Plan

C/2651A-5Y-STD: KeithleyCare 5-Yr Std Cal Plan

C/2657A-5Y-STD: KeithleyCare 5-Yr Std Cal Plan

**LEARN MORE**  Download "Creating Multi-SMU Systems with High Power System SourceMeter Instruments" Application Note.

# ALLICE

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