

# 2635 2636

## Keithley's Fastest, Most Compact, and Most Cost-Effective SourceMeter® Line Adds Low Current Capabilities



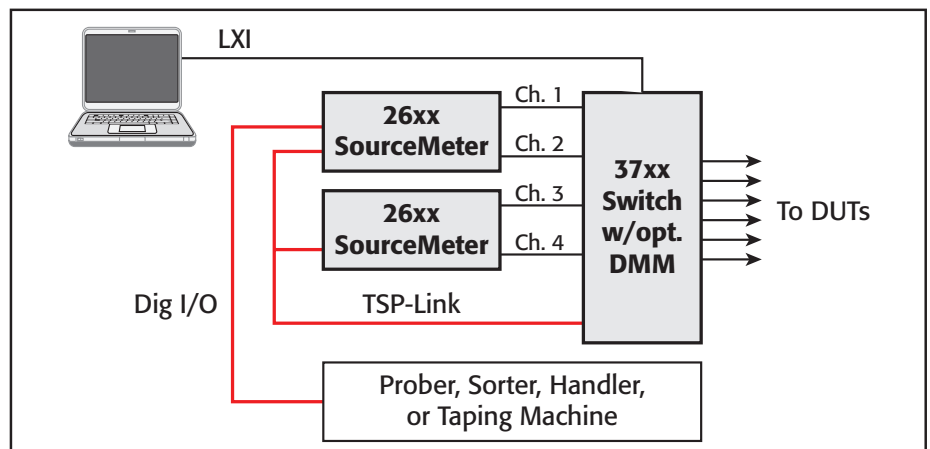
Now, there are two new good reasons to choose Series 2600 System SourceMeter® Multi-Channel I-V Test Instruments for your next semiconductor parametric analysis and test system: the single-channel Model 2635 and two-channel Model 2636, designed especially for low current test applications. Like the rest of the Series 2600 family, they pack a lot of testing capability into one half-rack, 2U instrument: a precision power supply, a true current source, 5½-digit multimeter, a voltage or current pulse generator with measurement, a low frequency arbitrary waveform generator, an electronic load, and a trigger controller.

### Optimized for low current applications

With 1fA measurement resolution, the Model 2635 and 2636 are optimized for applications that require low current sourcing and measurement capabilities, such as semiconductor device characterization, parametric analysis, reliability, and wafer sort; low current testing of optoelectronic devices, sensors, and discretes; research and education lab applications such as materials and dielectrics testing, Hall effect, and van der Pauw measurements; and low power characterization in nano-technology research applications.

### Made for building high throughput test solutions that lower your cost of test

These new low current solutions complement a variety of other Keithley solutions for building larger, more capable test systems. For example, they offer a convenient, economical way to add three more low current measurement ranges to Series 2600-based Automated Characterization Suite (ACS) test systems, which are designed for semiconductor characterization at the device, wafer, or cassette level, making possible significant throughput advantages by testing multiple devices in parallel. Series 2600 instruments are also designed to work in tandem with Keithley's recently introduced Series 3700 System Switch/Multimeter mainframes to create high throughput test systems for a variety of other devices and components.



In next-generation test systems, the Series 2600's on-board Test Script Processor (TSP™) and TSP-Link™ trigger bus optimize the speed and efficiency of instrument setup and triggering commands, while the Series 3700 System Switch/Multimeter's LXI interface optimizes the speed of transmitting large packets of data (such as downloading test scripts to the Series 2600 instrument or returning test data to the PC). In this way, one TSP test script can control all the SMU channels, switching, DMM, and a prober/handler as a single system to maximize test throughput.

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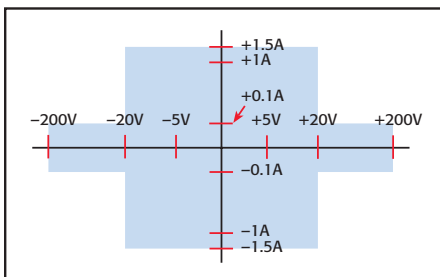
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### Have you met the rest of the Series 2600 family?

Test system builders count on Keithley's Series 2600 System SourceMeter® instruments when they're creating high speed, multi-channel I-V functional test or characterization systems—and with good reason. They let you make precision DC, pulse, and low frequency AC source-measure tests faster, easier, and more economically than ever before by combining:

- Keithley's high speed, third-generation Source-Measure Unit (SMU) design that supports four-quadrant I-V measurements up to 200V and 10A, with speeds up to 10,000 readings/second.
- An embedded Test Script Processor that can process and run complex test sequences right from the instrument.
- TSP-Link™, a blazing fast (100Mbit/s) triggering and inter-unit communication bus that gives you virtually unlimited flexibility to scale your channel count up or down to match changing application needs. Once connected in a master/slave configuration, all the channels can be programmed and operated under the control of the master unit, just as if they were all housed in the same chassis.



Models 2635 and 2636 I-V capability

To learn more about the new Model 2635 and 2636 instruments and the rest of the Series 2600 product family, contact your Keithley sales representative to arrange a personal demonstration or request a copy of our information kit on [www.keithley.com](http://www.keithley.com).

### Models 2635 and 2636 Condensed Specifications

#### SOURCE SPECIFICATIONS (1 year)

MAXIMUM OUTPUT POWER:  $\pm 20.2V @ \pm 1.5A; \pm 202V @ \pm 100mA$ . Four quadrant source or sink capability.

VOLTAGE DYNAMIC RANGE: 200V–5 $\mu$ V.

VOLTAGE BASIC ACCURACY: 0.02%.

CURRENT DYNAMIC RANGE: 1.5A–20fA.

CURRENT BASIC ACCURACY: 0.03%.

#### MEASURE SPECIFICATIONS (1 year)

VOLTAGE DYNAMIC RANGE: 200V–1 $\mu$ V.

VOLTAGE BASIC ACCURACY: 0.015%.

INPUT RESISTANCE: >10G $\Omega$ .

CURRENT DYNAMIC RANGE: 1.5A–1fA.

CURRENT BASIC ACCURACY: 0.02%.

VOLTAGE BURDEN: <1mV.

#### PULSE SPECIFICATIONS

MINIMUM PULSE WIDTH: 200 $\mu$ s.

PROGRAMMING RESOLUTION: 1 $\mu$ s.

#### SPEED SPECIFICATIONS, MAX.

SWEEP, MEASURE ONLY: 10,000 rdgs/s (60Hz, 0.001PLC, into memory).

SWEEP, SOURCE AND MEASURE: 5,500 rdgs/s (60Hz, 0.001PLC, into memory).

SINGLE POINT, MEASURE ONLY: 0.9ms (60Hz, 0.001PLC, to GPIB).

SINGLE POINT, SOURCE AND MEASURE: 1.1ms (60Hz, 0.001PLC, to GPIB).

RANGE CHANGE, MEASURE: 0.2ms (typical).

RANGE CHANGE, SOURCE: 2.5ms (typical).

FUNCTION CHANGE, SOURCE: 2.0ms (typical).

#### SPECIFICATION CONDITIONS

23°C  $\pm$ 5°C, <70% relative humidity, 2 hour warm-up, 1PLC, auto zero on, remote sense, best fixed range. Specifications are subject to change without notice.

#### ACCESSORIES SUPPLIED

237-ALG-2	Low Noise Triax Cable with Alligator Clips, 2m (6.6 ft.) (two supplied with 2636, one with 2635)
2600-IAC	Safety Interlock Adapter Connector
CA-180-3A	TSP-Link Cable
LabTracer 2.0 Software	(downloadable), Test Script Builder Software

#### GENERAL INFORMATION

HOST INTERFACES: IEEE-488.1 and 488.2; RS-232 (115Kbaud); TSP-Link; Digital I/O.

PROGRAMMING: Embedded Test Script Processor (TSP) accessible from any host interface. TSP executes high speed test scripts stored in memory without host intervention. Direct I/O interface to popular programming languages such as VB, VC/C++, TestPoint, LabVIEW, LabWindows/CVI, and more.

MEMORY: Minimum 3Mbytes (50,000 lines of TSP code).

READING BUFFERS: Non-volatile, 30 day battery backup, >100,000 samples max. capacity.

TIMESTAMP: 1 $\mu$ s resolution.

SYSTEM EXPANSION: A maximum of 16 TSP-Link nodes can be interconnected per GPIB address. Each SourceMeter consumes one TSP-Link node. 32 channels max. per GPIB address.

SOFTWARE: Test Script Builder (Integrated Development Environment for building, running, and managing scripts); LabTracer 2.0 (point-and-click tool for configuration, control, and display of reading data or cut-and-paste to Excel).

SOFTWARE DRIVERS: Native LabVIEW driver.

SAFETY INTERLOCK: External input must be applied to enable 200V range.

INPUT POWER: 100V to 240VAC, 50–60Hz (manual setting), 240VA max.

WARRANTY: 1 year.

EMC: Conforms to European Union Directive 89/336/EEC, EN 61326-1.

SAFETY: Conforms to European Union Directive 73/23/EEC, EN 61010-1, and UL 61010-1.

DIMENSIONS: 89mm high  $\times$  213mm wide  $\times$  460mm deep (3½ in  $\times$  8½ in  $\times$  17½ in). Bench Configuration (with handle & feet): 104mm high  $\times$  238mm wide  $\times$  460mm deep (4¼ in  $\times$  9¼ in  $\times$  17½ in).

WEIGHT: 2635: 4.75kg (10.4 lbs). 2636: 5.50kg (12.0 lbs).

OPERATING ENVIRONMENT: 0°–50°C, 70% R.H.

#### ACCESSORIES AVAILABLE

4299-1	Single Rack Mount Kit with Front and Rear Support
4299-2	Dual Rack Mount Kit with Front and Rear Support
7078-TRX-*	3-Slot, Low Noise Triax Cable
7078-TRX-GND	3-Slot Male Triax to BNC Adapter (guard removed)
2600-TLINK	Digital I/O to TLINK Adapter Cable, 1m
CA-126-1	Digital I/O and Trigger Cable, 1.5m
7007-1	Double Shielded GPIB Cable, 1m (3.3 ft.)
7007-2	Double Shielded GPIB Cable, 2m (6.6 ft.)
KPCI-488LP	IEEE-488 Interface/Controller for the PCI Bus
KPXI-488	IEEE-488 Interface Board for the PXI Bus
KUSB-488A	IEEE-488 USB-to-GPIB Interface Adapter
2635-EW	1 Year Extended Warranty for Model 2635
2636-EW	1 Year Extended Warranty for Model 2636
2600-STD-RES	Calibration Standard for 2635, 2636

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