



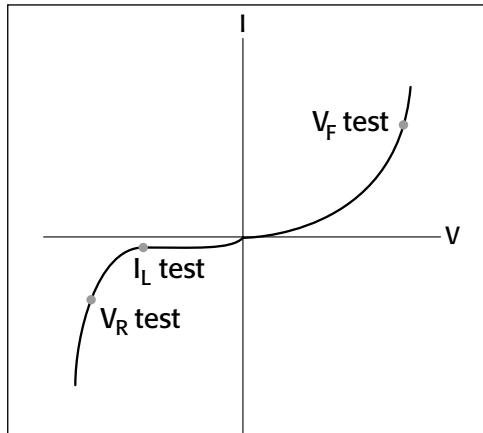
DISCOVER THE INDUSTRY STANDARD FOR LED ELECTRICAL TEST

Keithley's SourceMeter® Solutions

Whether you're characterizing Light Emitting Diodes (LEDs) in an R&D lab, on the wafer level, in packaged devices or arrays, or as finished assemblies, you need instruments that deliver high accuracy sourcing and measurement. Today, for a growing number of LED manufacturers, that means Keithley's SourceMeter® instruments.

Test types typically used in characterization of high brightness LEDs:

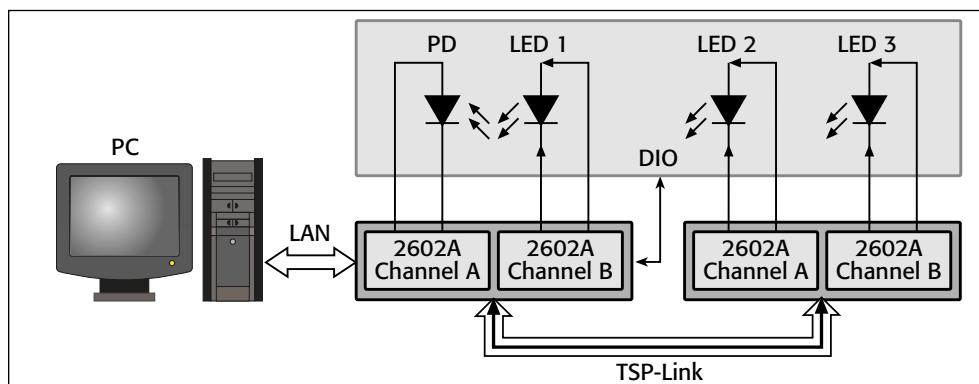
- Forward voltage test (V_F)
- Reverse breakdown voltage (V_R)
- Leakage current (I_L)



Typical LED DC I-V curve and test points (not to scale)

Keithley's Solution for Testing Multiple LED Devices/Arrays

Testing multiple devices or arrays over a specified period, such as during burn-in, requires sourcing a continuous current to drive the DUTs. Series 2600A System SourceMeter instruments are perfect for this application. Using embedded test script processing (TSP®) and TSP-Link® connectivity ensures tight instrument synchronization and control for maximum speed and simplicity. For higher channel count applications, you can add a TSP-enabled Model 3706 System Switch/Multimeter. This model can handle up to 576 multiplexed channels or 2688 matrix cross-points and can be quickly and easily integrated through TSP-Link.



Why Choose a Keithley SourceMeter Instrument for LED Testing?

- **Tight function integration** – All SourceMeter instruments provide simultaneous voltage and current sourcing and measurement capabilities in a single cost-effective enclosure.
- **Simpler system setup –** SourceMeter instruments eliminate the synchronization and connection complexities associated with using separate sources and meters.
- **High-speed operation –** Fast test speeds and tight triggering synchronization ensure higher throughput and a lower cost of test.
- **Wide dynamic range –** The Keithley Series 2600A SourceMeter family offers industry-leading current range performance, from 10A in pulse mode down to 100nA, with 1pA resolution.
- **LED testing expertise –** Keithley is the industry leader in developing and supporting solutions for electrical testing of LEDs and other opto devices.

DISCOVER THE INDUSTRY STANDARD FOR LED ELECTRICAL TEST

Our Most Popular LED Testing Solutions



Series 2400 SourceMeter Instruments

Widest I-V dynamic range for benchtop and automated testing

- Combines a voltage or current source including pulse generation with concurrent voltage and current measurements
- Six single-channel models to choose from, including three with dynamic ranges that are ideal for LED test:
 - Model 2400: 200V, 1A, 20W
 - Model 2420: 60V, 3A, 60W
 - Model 2440: 40V, 5A, 50W
- 2,000 readings per second
- Built-in test sequencing with pass/fail comparator and digital I/O interface for fast device sorting/binning



Series 2600A System SourceMeter Instruments

Highest test speed with seamless system expansion

- Latest generation SourceMeter instruments combine a voltage or current source, including pulse and arbitrary waveform generation, with concurrent voltage and current measurements
- Single- and dual-channel models to choose from, including four with dynamic ranges that are ideal for LED test:
 - Model 2601A/2602A: 40V, 3A DC, 10A pulse
 - Model 2611A/2612A: 200V, 1.5A DC, 10A pulse
- 20,000 readings per second rate ensures faster testing and allows capturing transient device behavior
- Embedded test script processor (TSP®) allows additional programmability for enhanced system control and best-in-class test throughput
- Series 2600A's waveform generation capability enables AC waveform sourcing so you can test both AC and DC LEDs with one instrument

Other Keithley LED Test Solutions



Series 3700 System Switch/Multimeters. Speed and simplify multichannel applications, such as production testing of multiple LEDs in parallel.



Model 2520 Pulsed Laser Diode Test System. For research and development of new high brightness LED designs, offering pulse widths as short as 500ns to prevent device self-heating.

A GREATER MEASURE OF CONFIDENCE

KEITHLEY