

# 7 Keys to Detecting Potential DUT Issues

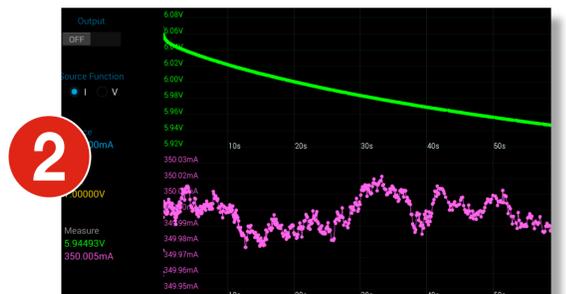
## Minimize Troubleshooting Time and Boost Productivity

Perform these seven easy tests on your battery, diode, LED, FET, or other DUT to identify potential issues early, avoid extensive troubleshooting, and have confidence that the DUT is safe to use in your circuit.



### 1 I-V Characterization with Real-time Control

I-V characterization is performed on a variety of electronic products. Typical I-V characterization requires writing programs or configuring test software to source voltage/current in a certain range, then the measured current/voltage will be displayed *after* you run the testing program. But, real-time control eliminates this delayed visualization that may cause you to miss some critical device behavior, providing further insight into your DUT.



### 2 Monitor I-V Trends over Time

It's especially important to monitor device behavior over time to identify DUT problems that occur with changes in ambient conditions, such as temperature, lighting, self-heating, etc. Keithley IVy provides a time mode to monitor your devices.

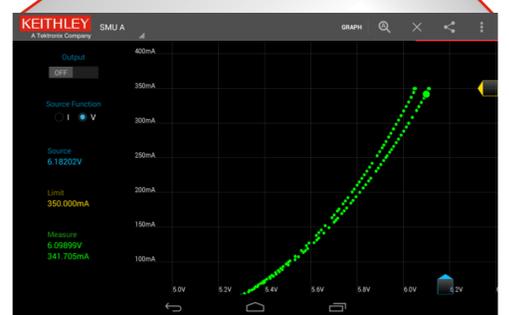


### 3 Understand Measurement Results from Different Perspectives

You know your measurement hits a spike at a random point, but do you know how to determine the reason behind it? Measurement data makes more sense when you look at it from different perspectives.

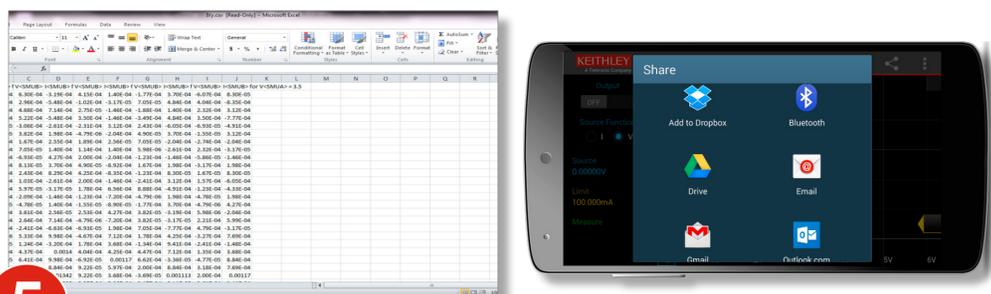


### 4 Zoom into Your Measurement to See the Details



### 5 Share Measurement Results for Collaborative Work

If you're having trouble understanding the device's behavior, share a screenshot and the actual data with your colleagues to ensure collaborative work.

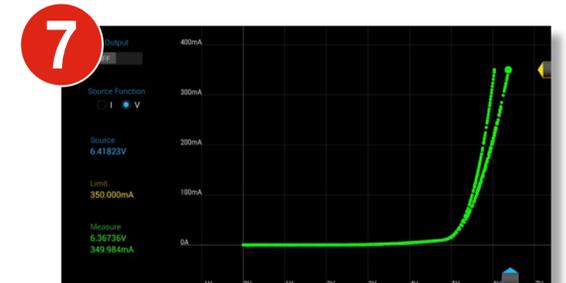


### 6 Stimulus-Response Behavior over Time

### 7 Compare Your Device to a "Golden Device"

Have you tested your component's stimulus-response behavior? The test results may surprise you! Typically, you need to program the stimulus activities into your test program and then observe the responses. If you see some unexpected behavior after the measurement is generated, go back to the test program and try to match each stimulus with the device behavior. Ideally, you can change source value in real time to see the DUT response instantly. While you are collecting data in time mode, you can remain in control of your source by changing the source slider.

Is the following diode characterization normal? Zoom in to look at it more carefully before you say yes.



### 7 Compare Your Device to a "Golden Device"

A "golden device" is a "known-good" device that is often used when testing components. Compare test results of an unknown device against a standardized, known-good device to determine if it is operating correctly. Plot multiple curves on one screen, which makes comparison easier.

The Keithley IVy Android™ App lets you perform these tests on your DUT with a couple of touches and just seconds of your time.



Get the Keithley IVy Android App Now!



Use IVy with any Keithley Series 2600B SourceMeter® SMU Instrument. Visit [www.keithley.com/2600B](http://www.keithley.com/2600B) to learn more.

