Tektronix®

ACS Wafer Level Reliability Edition

DATA SHEET

Key Features

- Leverages unique strengths of Keithley Series 2600B, Series 2400 Touchscreen Source Measure Unit (SMU) instruments, and 2651A and 2657A System SourceMeter SMU instruments – including system scalability and measurement speed

- System configurations from 2 to 44 channels

- Comprehensive JEDEC-compliant test suite

- Optimized for both emerging and mature technologies

- Supports both sequential and parallel testing

- Fully automatic single-site and multi-site capability

- Compatible with all popular wafer probe stations

- Real-time plotting and wafer mapping

- Simplified instrument configuration using the automated hardware management tool

- Various data file formats including KDF, CSV, and database for data analysis
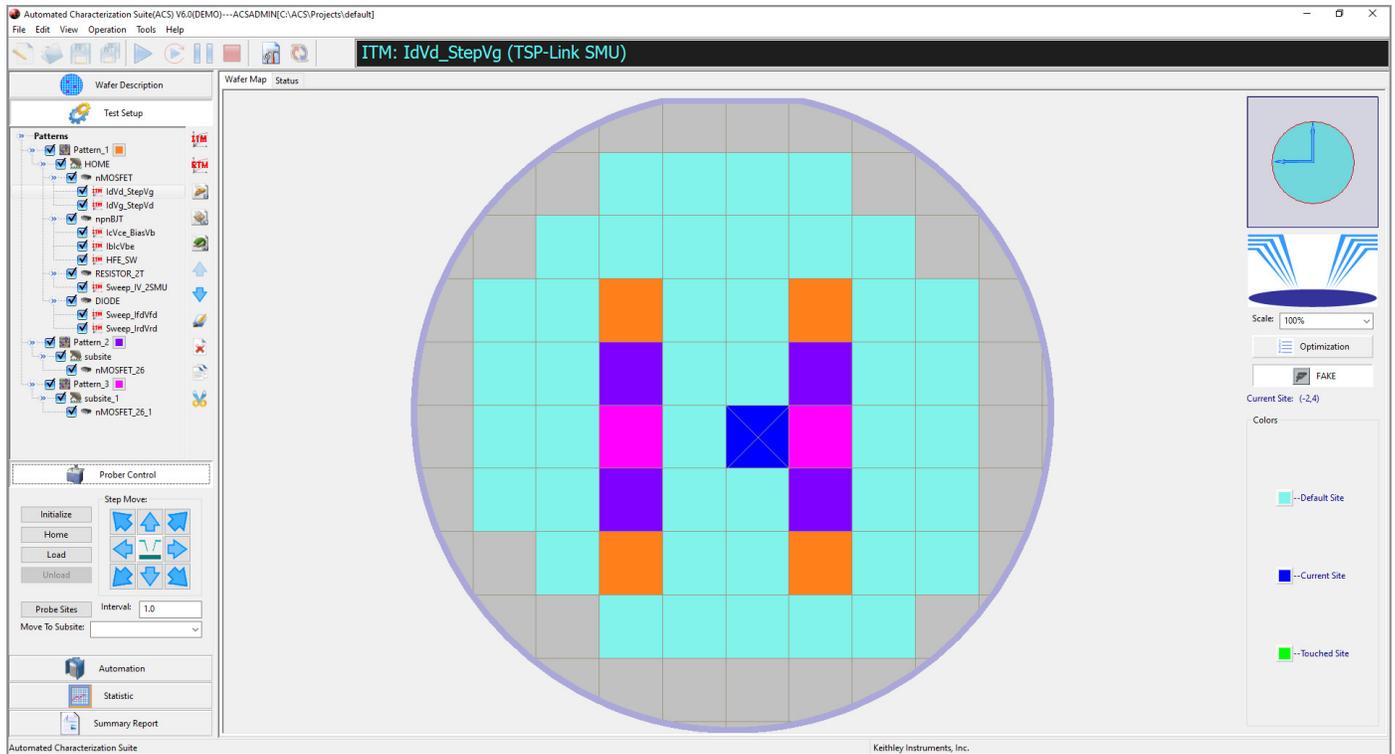
Keithley has taken the power of its Automated Characterization Suite (ACS) software and focused it on wafer level reliability (WLR) testing. The ACS WLR optional software license ACS-WLRFL is an added functionality to ACS that leverages the measurement speed and system integration capabilities of Keithley's Series 2600B, Series 2400 Touchscreen SourceMeter® Source Measure Unit (SMU) instruments, and 2651A and 2657A System SourceMeter SMU instruments. The result—you can produce lifetime predictions from two to five times faster than you can with conventional WLR test solutions, allowing you to accelerate your technology development, process integration, and process monitoring for faster time to market.

With the ACS WLR optional software license ACS-WLRFL, ACS offers comprehensive single- and parallel-device WLR testing capability. Integrated with our innovative Series 2600 SourceMeter SMU instruments, your WLR system will provide unmatched testing speed and accuracy via an SMU-per-pin architecture. A single 2600 dual-channel source measure unit (SMU) is suitable for single-device reliability testing. Or take advantage of the TSP-Link® Technology bus on the Series 2600 SMU instruments for systems with as many as 44 SMU channels (2 for each 2600) for testing large numbers of devices in parallel and increasing overall system productivity. In addition to precise low-level measurements, the Series 2600 SMU instruments can supply high voltage (200 V) and high current (1.5 A) sourcing and measurement to every test structure pad. This maximizes system flexibility, so you don't need one solution for gate oxide integrity and a different system for metal interconnect reliability. Looking for a complete system solution? Keithley offers ACS with its highly configurable S500 Integrated Test Systems and application development services.

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Extensive Software Capabilities

No coding is required to take full advantage of the source-measure capability of the TSP-enabled SMUs or the tools included in the ACS software environment. The ACS-WLRFL optional software license provides a powerful stress/measure sequencing tool with an interactive interface for testing device reliability, gate oxide integrity, and metal interconnects (EM). Its flexible test sequencing capabilities support pre- and post-testing, as well as intra-stress testing and stress monitoring. During testing, you can log raw reliability data into the database and/or plot it in real time. This real-time plotting provides a "sneak peek" at a test's outcome to let you know whether time-consuming tests are on track to deliver meaningful results. After testing, use the easy point-and-click analysis offered by the integrated Formulator, which is populated with standard parametric extraction calculations. In addition, a variety of modeling, line fitting, and standard math functions allow custom data manipulation without programming.

APPLICATIONS

- Device reliability
  - HCI, NBTI, PBTI
  - V_{TH} SiC
  - Ultra-Fast BTI (4200A/PMU)
- Gate oxide integrity
  - TDDB, V_{RAMP}, J_{RAMP}
- Metal interconnect
  - Isothermal electromigration
  - Poly heater

Ordering Information

ACS Wafer Level Reliability Edition

ACS-WLRFL	ACS Wafer Level Reliability Software; Perpetual Floating License	*
ACS-WLRFL-AN	ACS Wafer Level Reliability Software; 1 year Subscription Floating License Option**	
ACS-WLRFL-UP	Annual Maintenance License for extending support of Perpetual Floating License	

* Perpetual Licenses: The software can be used indefinitely; license does not expire but updates/support only available for the first 12 months. Support can be extended by purchasing a maintenance license. If a perpetual license goes out of support, all features will be frozen to the last released version before the support expired. The software will continue to work, but you cannot get any updates newer than the support expiration date.

- Maintenance Licenses – Apply to perpetual licenses only. Maintenance license is an extension license that extends the period of support of an original perpetual license for 12 months.

**Subscription Licenses: The software can be used throughout the term of the license only. Software updates and support through the term of the license are included. When the Subscription license expires, all features will no longer work, but a new Subscription license may be purchased.

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Rev. 02.2022

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