

Innovative Reliability Test System for Oxide Thin-Film-Transistors (TFTs)

Keysight Technologies and
STAr Technologies



Revolutionizing the Semiconductor Testing Experience

STAr Technologies Inc., a Keysight Solution Partner, is a leading provider of advanced semiconductor testing solutions. Their latest innovation, the oxide TFT Reliability Test System, is transforming the semiconductor testing landscape by integrating Keysight's PZ2100 Series high-channel-density precision Source Measure Units (SMUs), the B1500A Device Parameter Analyzer, and the B2201A Low Leakage Switching Matrix. This comprehensive solution offers unparalleled precision and efficiency, enabling accurate and reliable IV and CV testing of oxide TFTs. Designed to meet the evolving demands of the semiconductor industry, this system provides enhanced functionality, an improved user experience, and significant time savings.

Compact and Comprehensive Testing Setup

The integration of the PZ2100, B1500A, and B2201A enables a space-efficient, all-in-one solution for oxide TFTs reliability testing. This single-rack system supports both AC and DC stress tests, as well as long- and short-term evaluations, streamlining the testing process and minimizing footprint. Additionally, it can connect to up to 10 manual probes simultaneously, enhancing throughput and scalability.

Test Requirements	Hardware Configurations
AC & DC stress, IV & CV characteristics	2 sets of B1500As (with 4x HRSMUs + 2x HV-SPGUs + 1x MFCMU) and B2201As (with 4x B2211As)
Short-term DC stress	4 sets of PZ2100As (with 1x PZ2110A + 1x PZ2120A)
Long term DC stress	4 sets of PZ2100As (with 1x PZ2110A + 1x PZ2120A)

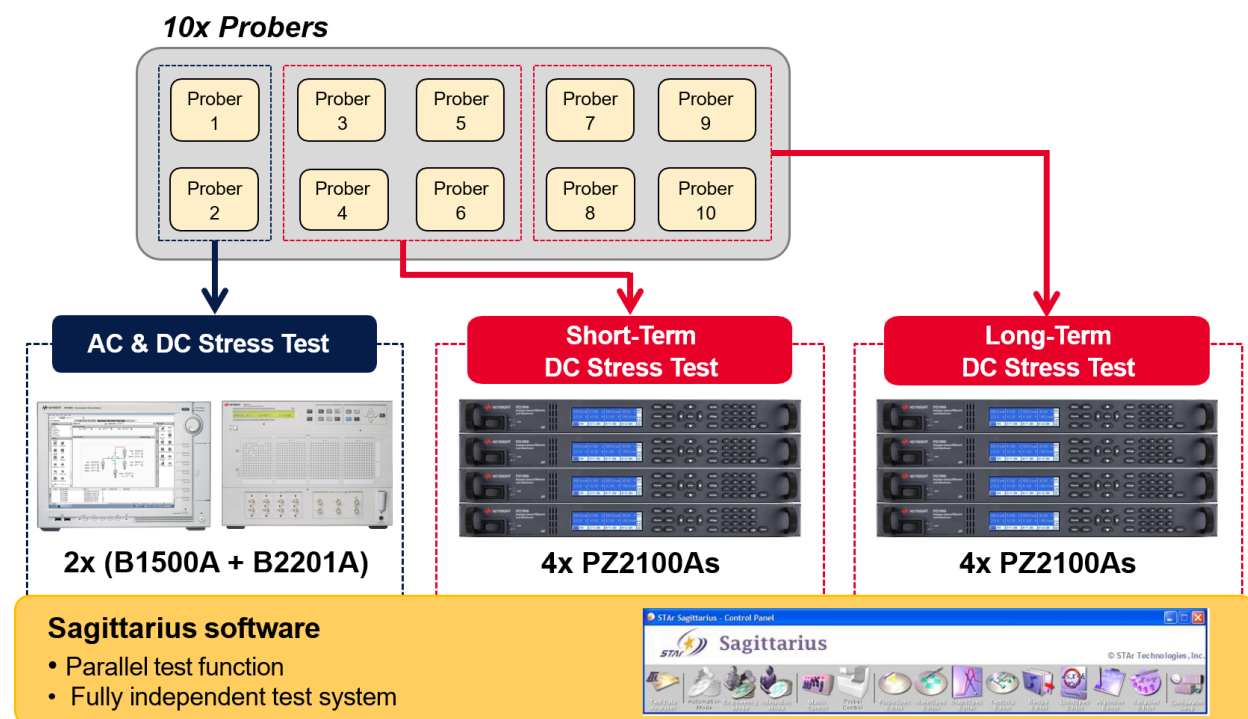
Unmatched Precision and Accuracy in Every Measurement

The advanced hardware capabilities of the PZ2100 and B1500A, along with the low leakage switching matrix B2201A, ensure high precision IV and CV measurements. This allows for accurate evaluation of the true reliability performance of devices, providing users with reliable and consistent data.

Model	Key Specifications of Modules
B1500A	HRSMU: I/V range of 100 V / 0.1 A, 0.1 fA resolution. HV-SPGU: Max. 40 V pulse and arbitrary waveform generation. MFCMU: 1 kHz to 5 MHz frequency range, 1 mHz resolution.
B2201A	B2211A: 12 triaxial ports per module (Total 48 ports per mainframe), 100 fA offset current. Automated switching between IV and CV measurements
PZ2100A	PZ2110A: I/V range of 210 V / 315 mA, 10 fA resolution, 1.25 MSa/s digitizing. PZ2120A: I/V range of 60 V/ 3.5 Adc (10.5A pulse), 100 fA resolution, 1 MSa/s digitizing.

Streamlined Testing and Data Management

The Sagittarius software enables seamless control of multiple instruments, from measurement to data management. This integration ensures smooth operation, significantly improving measurement efficiency and data management, ultimately enhancing overall productivity.



- To learn more about this solution, contact **STAr Technologies**.
- Interested in becoming a Keysight Solution Partner? Submit the **form** to join!



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