



## Expand your device characterization with Ultra-Fast I-V testing

PULSE AND TRANSIENT I-V, SOI CMOS, FLASH, PHASE CHANGE MEMORY, LDMOS, HI- $\kappa$ , NBTI/PBTI

To characterize a semiconductor device, material, or process technology completely, you need to be able to make precision DC I-V, AC impedance, and ultra-fast or transient I-V measurements. The latest upgrades to the Model 4200 characterization system deliver ultra-fast voltage waveform generation and measurement capabilities that make

high-speed I-V measurements as easy as DC measurements. Now, by configuring a Model 4200 with our new Model 4225-PMU Ultra-Fast I-V Module, DC I-V Source-Measure Units, and C-V instrument, you combine all the characterization capabilities your lab needs in a single chassis.

### WHAT DOES ULTRA-FAST I-V OFFER YOUR CHARACTERIZATION LAB THAT OTHER SOLUTIONS DON'T?

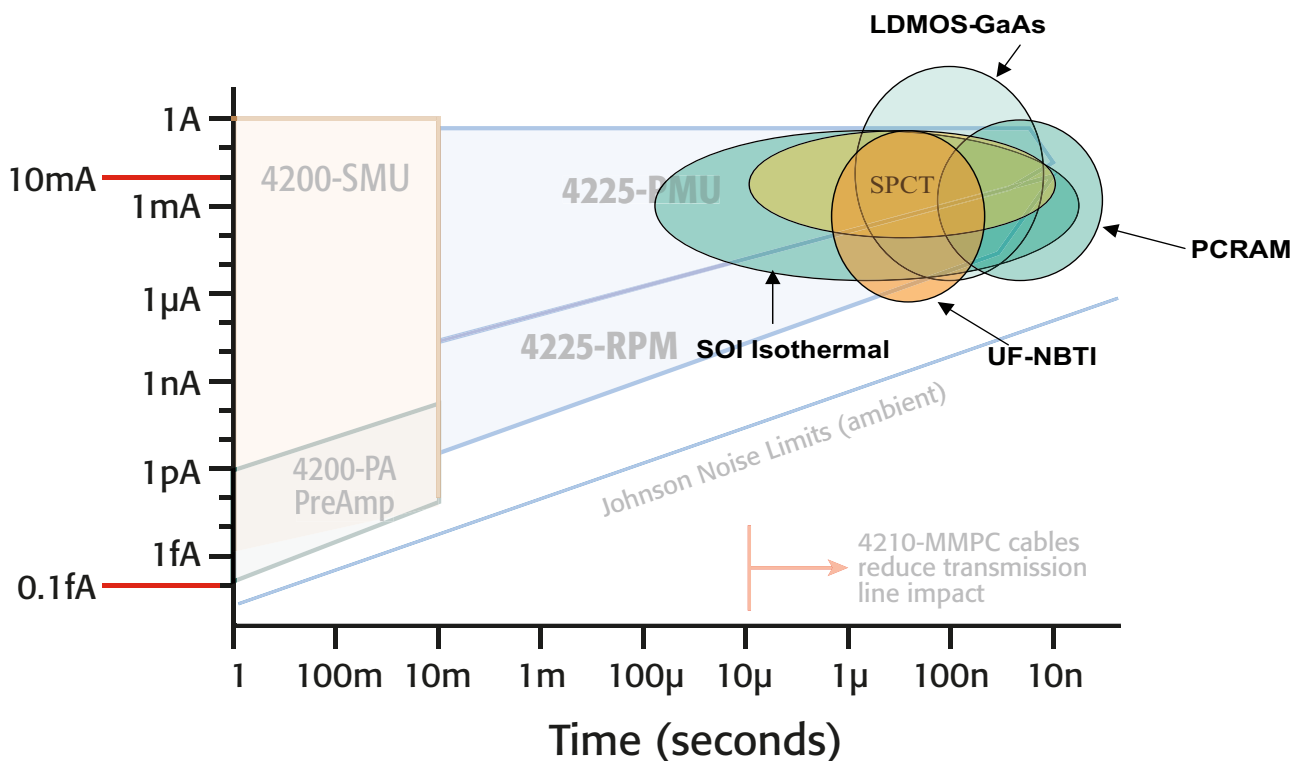
FEATURE	BENEFIT
The broadest dynamic measurement ranges available in the semiconductor test industry	You can characterize a full range of material, device, and process technologies with a single set of instrumentation.
Extensive sample libraries	You can acquire and analyze data quickly and easily.
Modern graphical interface that combines control for precision DC, C-V and ultra-fast pulse and I-V instrumentation	You can integrate all three types of tests into a single test sequence from the same easy-to-use interface.
Optional multi-measurement performance cables (MMPC)	You'll eliminate the need for complex and time-consuming re-cabling during testing
Compatibility with both new and existing Model 4200 systems	You can expand your system readily to address new characterization challenges.



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## SOLUTIONS TO THE TEST CHALLENGES YOU'LL FACE TOMORROW ARE BUILT INTO THE MODEL 4200-SCS TODAY



Current measurements vs. time comparison of Keithley DC I-V and Ultra-Fast I-V instruments

### ONGOING SYSTEM ENHANCEMENTS ENSURE ONGOING ROI

The Model 4200-SCS offers the semiconductor industry the broadest and deepest applications coverage of any parameter analyzer on the market. Keithley has continually enhanced the Model 4200-SCS's hardware and software ever since its introduction. Our commitment to ongoing system innovation assures you of a cost-effective upgrade path, so you'll never have to buy a new parametric analyzer because your old one can't adapt to new test requirements. The Model 4200-SCS is engineered to keep up with the industry's changing test needs, stretching your capital investment further and improving your return on your equipment investment.

**For more details on Ultra-Fast I-V applications,  
download the Ultra-Fast I-V Applications Overview at  
<http://www.keithley.com/data?asset=52837>**

### SUPPORT FOR EMERGING MATERIAL, DEVICE, AND PROCESS CHARACTERIZATION CHALLENGES LIKE THESE:

- Ultra-fast general-purpose I-V measurements
- Pulsed I-V and transient I-V measurements
- Flash, PCRAM, and other non-volatile memory tests
- Isothermal testing of medium-sized power devices
- Materials testing for scaled CMOS, such as high-κ dielectrics
- Ultra-fast NBTI/PBTI reliability tests
- Single-pulse charge trapping (SPCT)
- Charge-based capacitance measurement (CBCM)
- Silicon-On-Insulator
- LDMOS/GaAs isothermal
- Charge pumping
- Thermal impedance
- MEMs cap
- RTS CMOS

To learn more about how the latest Model 4200-SCS upgrade can expand your materials, device, and process characterization capabilities, contact your local Keithley Instruments representative to arrange a consultation. Contact information is available at [www.keithley.com](http://www.keithley.com)

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