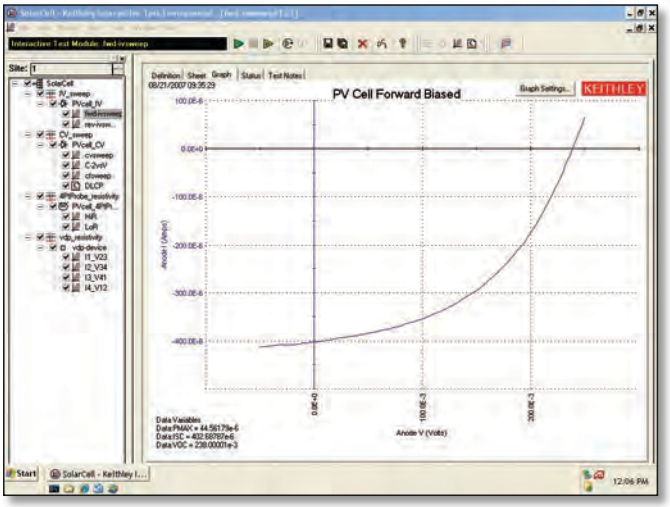
Simplify Your Solar Cell Testing with Keithley's Precision Measurement Solutions



Keithley's solutions for solar cell I-V and C-V characterization provide the most accurate measurements available without the hassles of integrating separate instruments or writing complicated programs.

Electrical characterization of a variety of solar cell (Photovoltaic) technologies, including:

- Mono Crystalline Si
- Poly Crystalline Si
- Amorphous Si
- CIGS
- CdTe
- Polymer Organic

Measurement of key parameters including:

- Open circuit voltage(Voc)
- Short circuit current (Isc)
- Maximum power output (Pmax)
- Voltage at Pmax (Vmax)
- Fill factor (ff)
- Series resistance (Rs)
- Shunt resistance (Rsh)
- Conversion efficiency (η)
- Doping density (N)
- Cell resistivity
- Defect density

MODEL 4200-SCS SEMICONDUCTOR CHARACTERIZATION SYSTEM

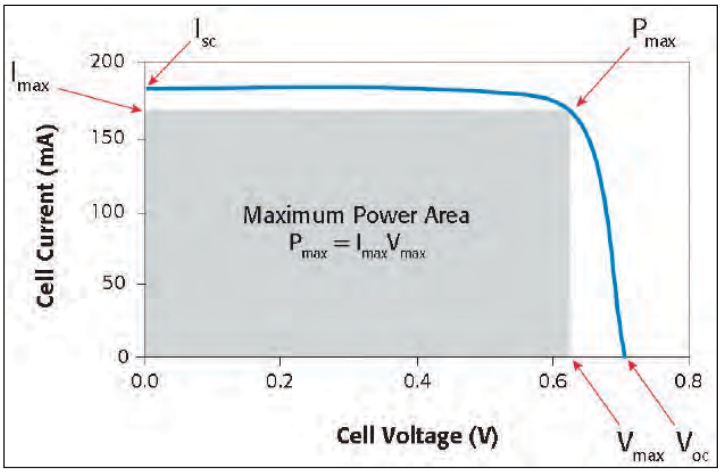
- Fully integrated I-V and C-V turn key solution with intuitive graphical user interface
- Built-in libraries for extracting key cell parameters, and advanced analytical and formulation tools

SERIES 2400 OR 2600A SOURCEMETER® INSTRUMENTS

- 4-quadrant design provides both source and sink capability for complete I-V
- All-in-one solution for I-V characterization with the combined functionality of a precision power supply, high precision DMM, and electronic load

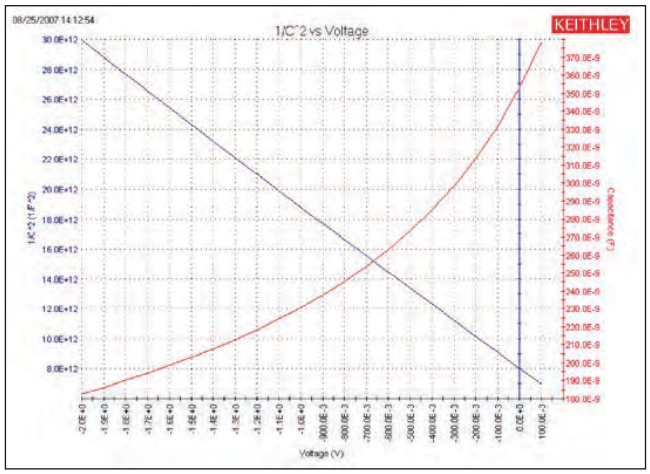
KEY SOLAR CELL PARAMETERS AND MEASUREMENT TECHNIQUES

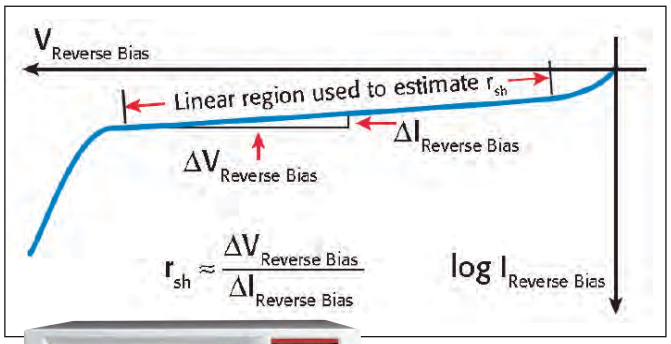
These measurements were made using Keithley's solutions for solar cell testing.



Typical forward biased I-V characteristic of a solar cell.

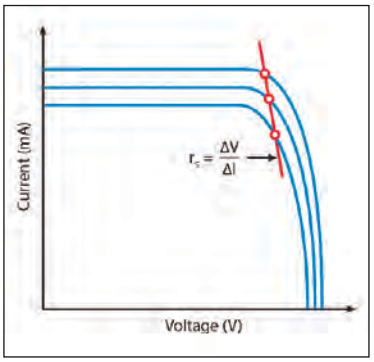
Doping Density (N) of a Crystalline-Si solar cell can be derived from capacitance-voltage sweep. (This feature is available on Model 4200-SCS with C-V option.)





Shunt resistance of a solar cell can be estimated from a reverse bias I-V sweep.

Series resistance (Rs) can be determined from a forward I-V sweep of a solar cell at multiple light intensities.



PARAMETER ANALYZER	SOURCE AND MEASURE INSTRUMENTS	
Model 4200-SCS Semiconductor Characterization System	Model 2602A SourceMeter Instrument	Model 2440 or 2425 SourceMeter Instruments
■ 4-quadrant operation (source/sink) ■ 1A at 20V ■ 100mA at 200V ■ Capacitance-Voltage (C-V) option ■ Turn key solution with built-in software for complete data analysis and cell parameter calculations ■ Combine with Model 707A Switch Matrix for multi-cell testing.	■ 4-quadrant operation (source/sink) ■ Dual channel ■ 3A at 6V ■ 10A at 20V pulse ■ 1A at 20V ■ Built-in TSP® Express software for quick and easy I-V test ■ ACS Basic Edition software option with preconfigured solar project ■ Combine with Series 3700 System Switch and Multimeter for multi-cell testing.	■ 4-quadrant operation (source/sink) ■ 5A at 10V (Model 2440) ■ 3A at 20V (Model 2425) ■ 1A at 100V (Model 2425) ■ Built-in sweep functions for convenient I-V profiling ■ 6 different models available for a wide range of I-V requirements ■ Combine with Models 7001 or 7002 Switch Mainframes for multi-cell testing.

For More Information:

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