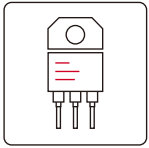
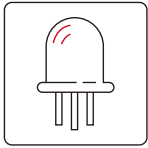


# SPS5000

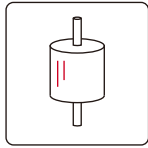
## Semiconductor Parametric Test Software



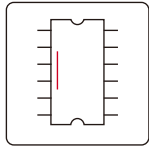
MOSFET



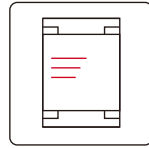
Laser diode



SiC diode



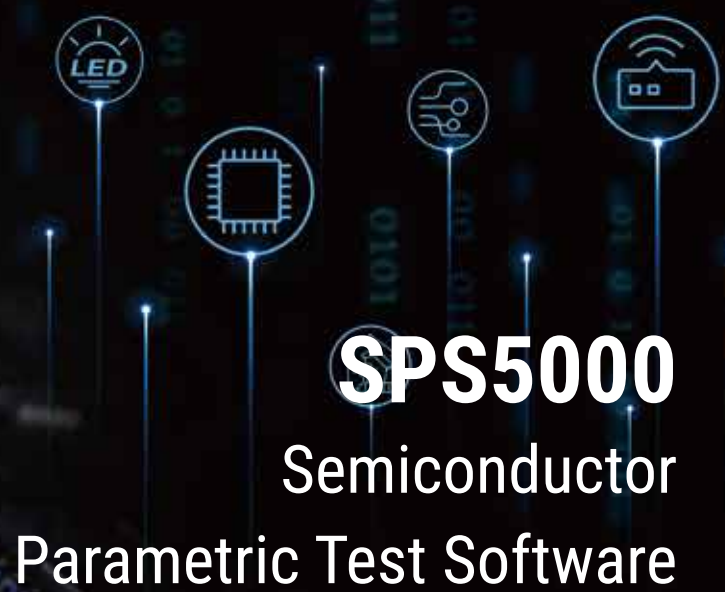
BJT



Thin film resistor



*Your Power Testing Solution*



# SPS5000

## Semiconductor Parametric Test Software

ITECH SPS5000 semiconductor parametric test software is equipped with the IT2800 high precision source measurement unit. It helps to quickly complete semiconductor test of device IV characterization and parametric test. SPS5000 supports DC, pulse, single and bidirectional sweeping modes. With an intuitive GUI, the SPS5000 helps university laboratories, semiconductor suppliers and research institutes to quickly perform semiconductor device characterization test. No programming knowledge is required when you use it.

SPS5000 software provides ready-to-use test items for different types of semiconductor devices such as MOSFETs, BJTS, diodes, and resistors. Take Diodes as an example, its ready-to-use test items include breakthrough voltage, forward bias, reverse bias and I-V. Depending on the test requirements, users can execute only one test item at a time, or a test sequence with multiple test items for rapid parametric analysis(-capable for items with the same wiring). The graphical display window and various powerful features of SPS5000 allow user to perform the measurement quickly and acquire the result graphically, dramatically improving the test efficiency of characterization.

### Features

- Intuitive GUI simplifies measurement setup, I-V characterization and data analysis
- Provides ready-to-use test items for MOSFETs/BJTs/Diodes/Resistors for quick Recall
- Automated test sequence function for continuous execution of multiple parameter tests for devices\*1
- Interactive and real-time data plotting accelerates review of test results Quick test mode to perform up to 32ch DUTs test simultaneously
- Built-in database allows user to store and rapidly recall the data and graphs
- Powerful graph analysis tools such as auto-scaling and line operations
- Multiple Y axes capabilities and configurable parameter type and scale type of Y-axis/X-axis
- Provides customized test item function\*2
- Software compatible with Windows 7 (or above) operating system
- Test fixture IT-E803 for low-power diodes and Mosfet test (42V/1A)
- Capable used with IT2800 series SMU, Minimum resolution up to 100nV/10fA

\*1 Test items that apply to the same wiring.

\*2 Stay tuned.

### Equipped with IT2800 SMU

Model	Voltage	Current	Power	Source resolution	Measure resolution
IT2801 IT2801R	±1000V	±1A DC&pulse	±20W	100nV/1pA	100nV/1pA
IT2805 IT2805R	±200V	±1.5A DC&pulse	±20W	1uV/100fA	100nV/10fA
IT2806 IT2806R	±200V	±3A DC, 10A pulse	±20W	100nV/10fA	100nV/10fA



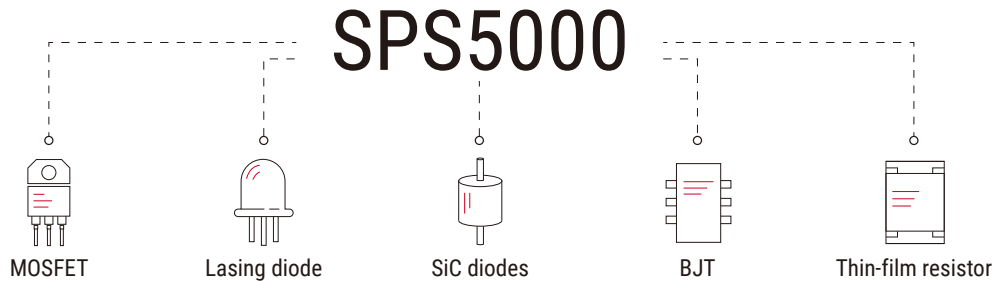
\* Models with 'R' also support rear panel outputs and with the triple coaxial terminals.

# Your Power Testing Solution

## SPS5000 Semiconductor Parametric Test Software

### Applications

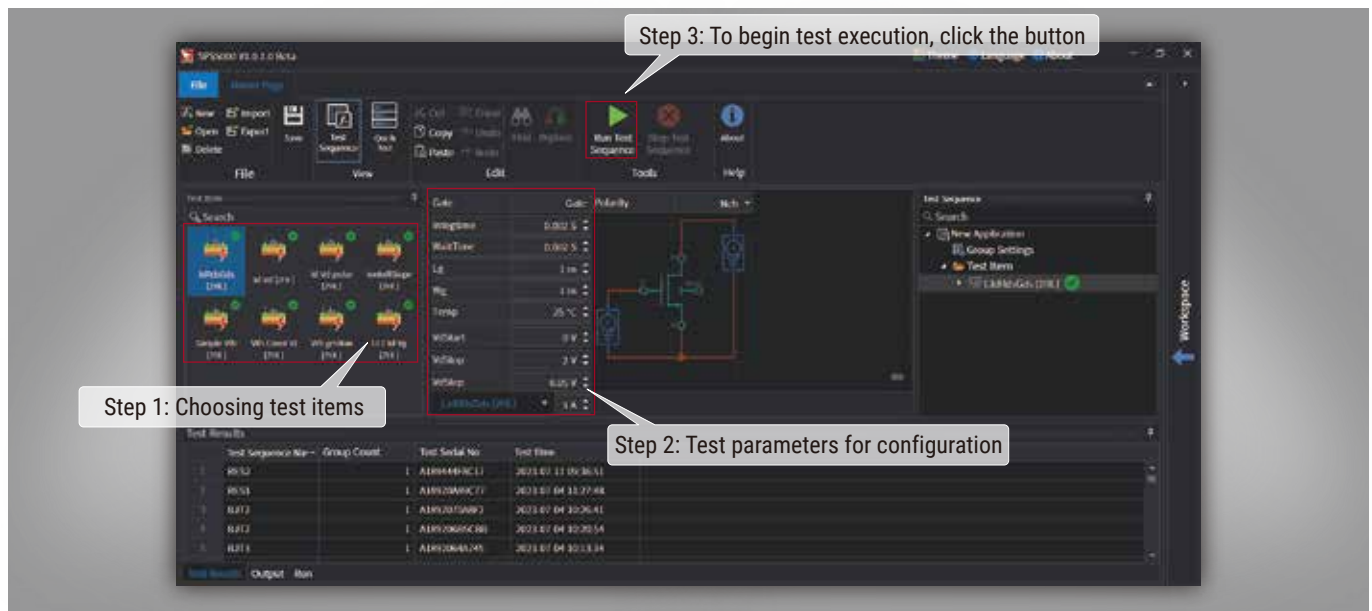
SPS5000 is a reliable software designed for the manual or automated testing needs of semiconductors in research institutes, semiconductor companies and universities.



### Ready-to-use test items greatly accelerate the semiconductor devices characterization

The SPS5000 software provides convenient ready-to-use test items for different types of semiconductor devices such as MOSFETs, BJTs, diodes, and resistors. Enabling user to perform measurement setup and data collecting quickly without any secondary programming.

Take MOSFET test as an example, a common testing process will be like this: defining test variables---develop the testing methods----writing automated test code----executing the test----making the data analysis. By using SPS5000, user can simply the test process in three steps with the preinstalled test items. Step one is to select the ready-to-use test item such as Id-Vd. Step two is to configure the measurement conditions. The last step is the clicking “running” to start the test. When test is finished, user can acquire the data and graphs automatically.



#### Ready-to-use test item examples

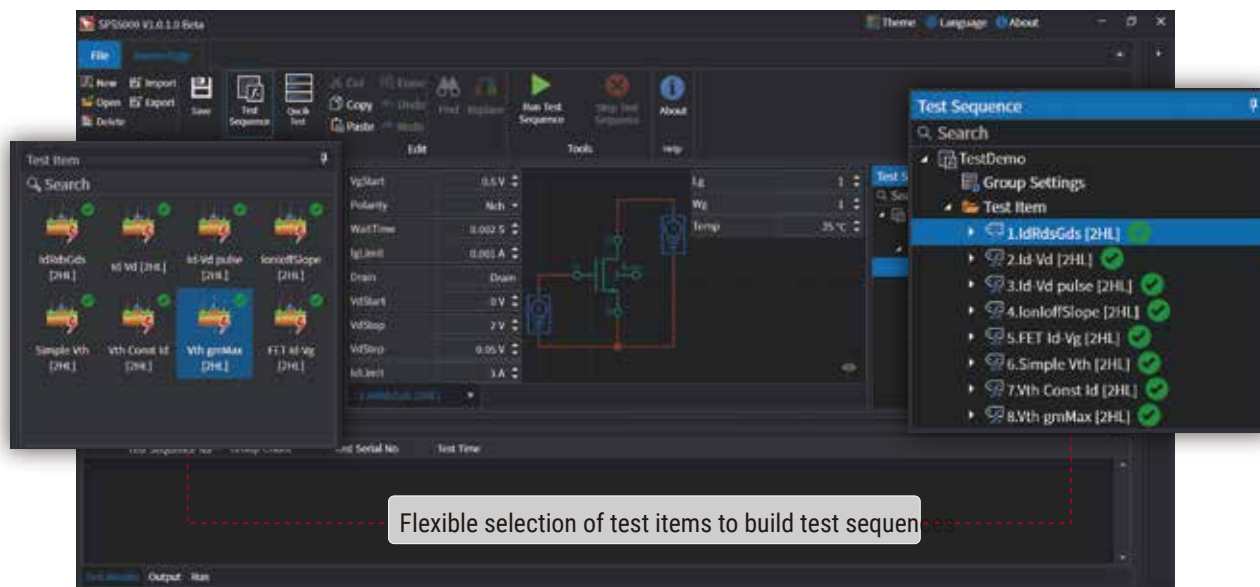
MOSFET	V(BR)DSS, V(BR)GSS, Id-Vd, Vth, Rds(on), Id-Vg.....
BJT	U(BR)CBO, U(BR) EBO, U(BR)CEO, Ic-Vc, ICBO, Ib=f(UBE), Ic=f(UCE), Gummel plot.....
Diode	IR, IF, Id-Vd, Ubr.....
Resistor	R-I, R-V, Dual sweep.....

# Your Power Testing Solution

## SPS5000 Semiconductor Parametric Test Software

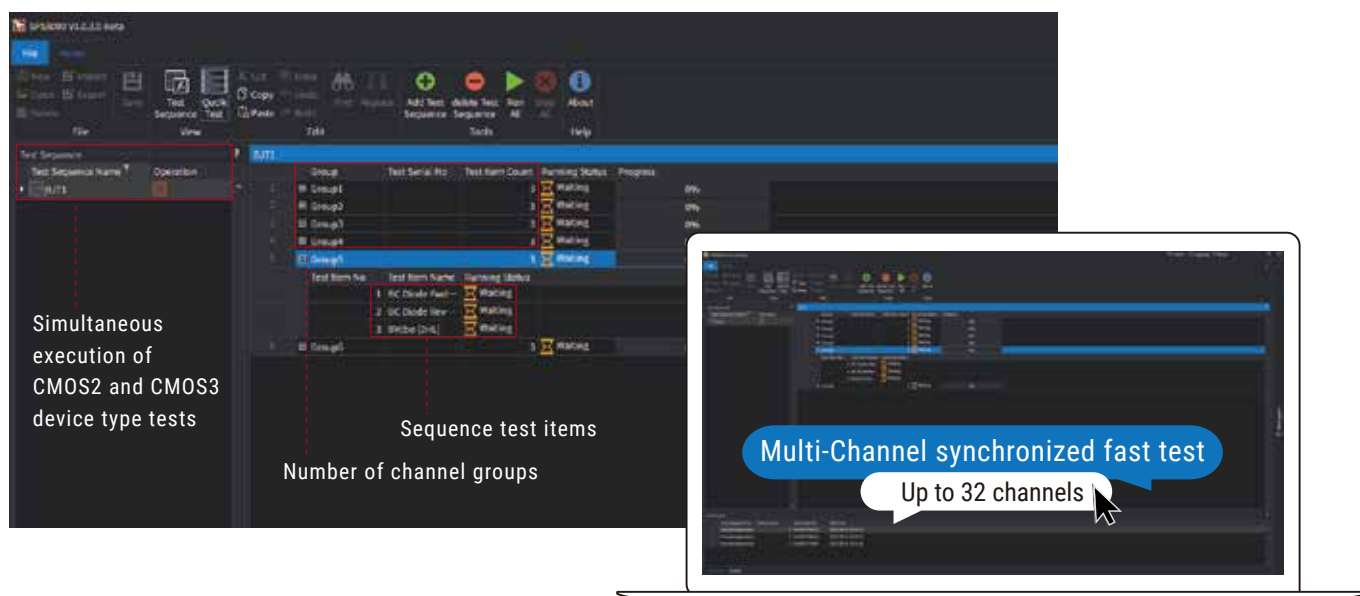
### Automated test sequence mode to fulfill multiple characterization test

The SPS5000 software provides a flexible and high-efficiency testing mode by allowing the user to form a test sequence with multiple ready-to-use test items. Automated test sequence mode is important to efficiently gather multiple parameters on the semiconductor device. For example, when you select Id-Vd test item of MOSFET, SPS5000 will automatically recall other test items with the same wiring connection, such as Vth, FET Id-Vg. users can execute only one test item at a time (e.g. Id-Vd), or combine them into a sequence for rapid multiple parametric test (Id-Vd -> Vth -> IonIoffslop ->...).



### High-efficiency quick test mode, supports up to 32ch

SPS5000 supports quick test mode to perform up to 32ch semiconductor devices test synchronously. It is capable for 32 different DUTs or 32 identical DUTs without any test limitations, greatly improving equipment utilization. In another word, SPS5000 supports to run different test sequences for different DUTs simultaneously. The quick test mode is very useful for batch test and multi-device research in laboratory.



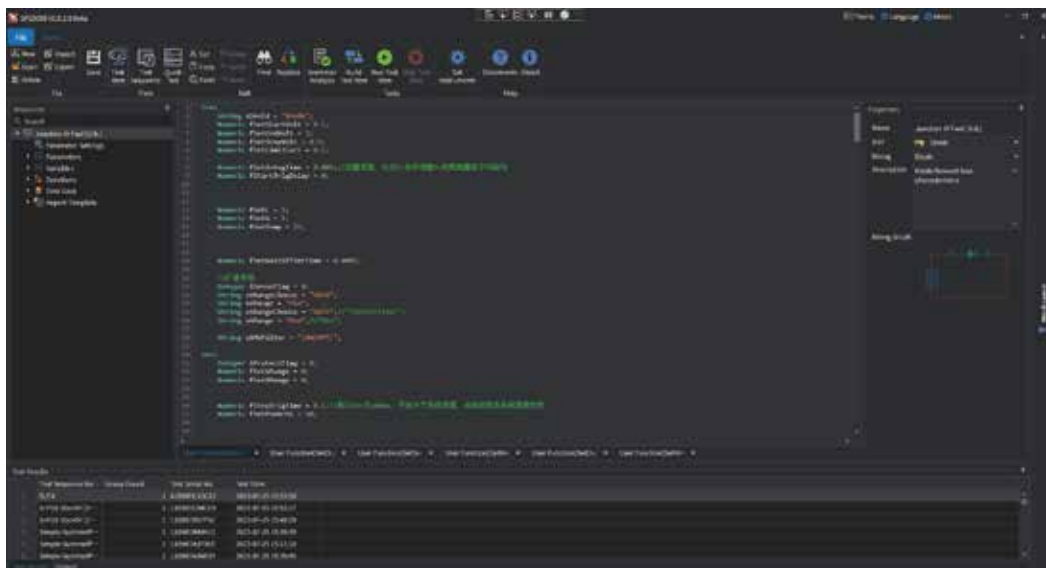
### Auto-analysis and graphical display features accelerate the characterization analysis

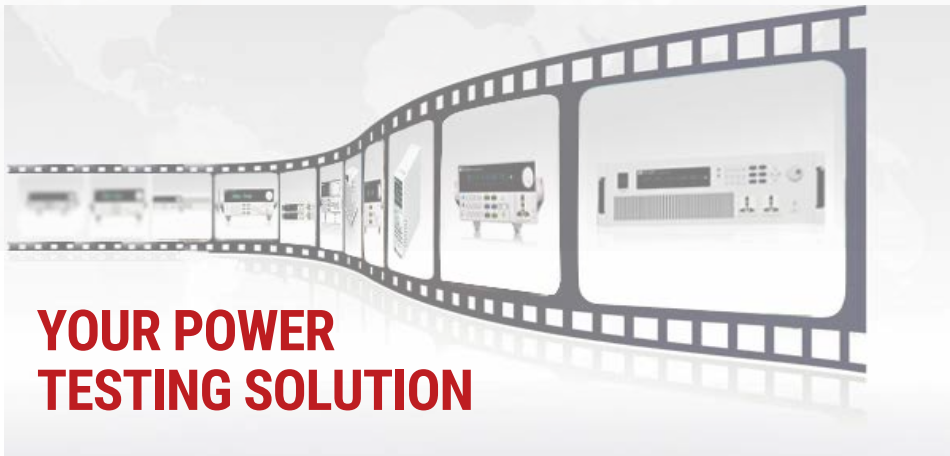
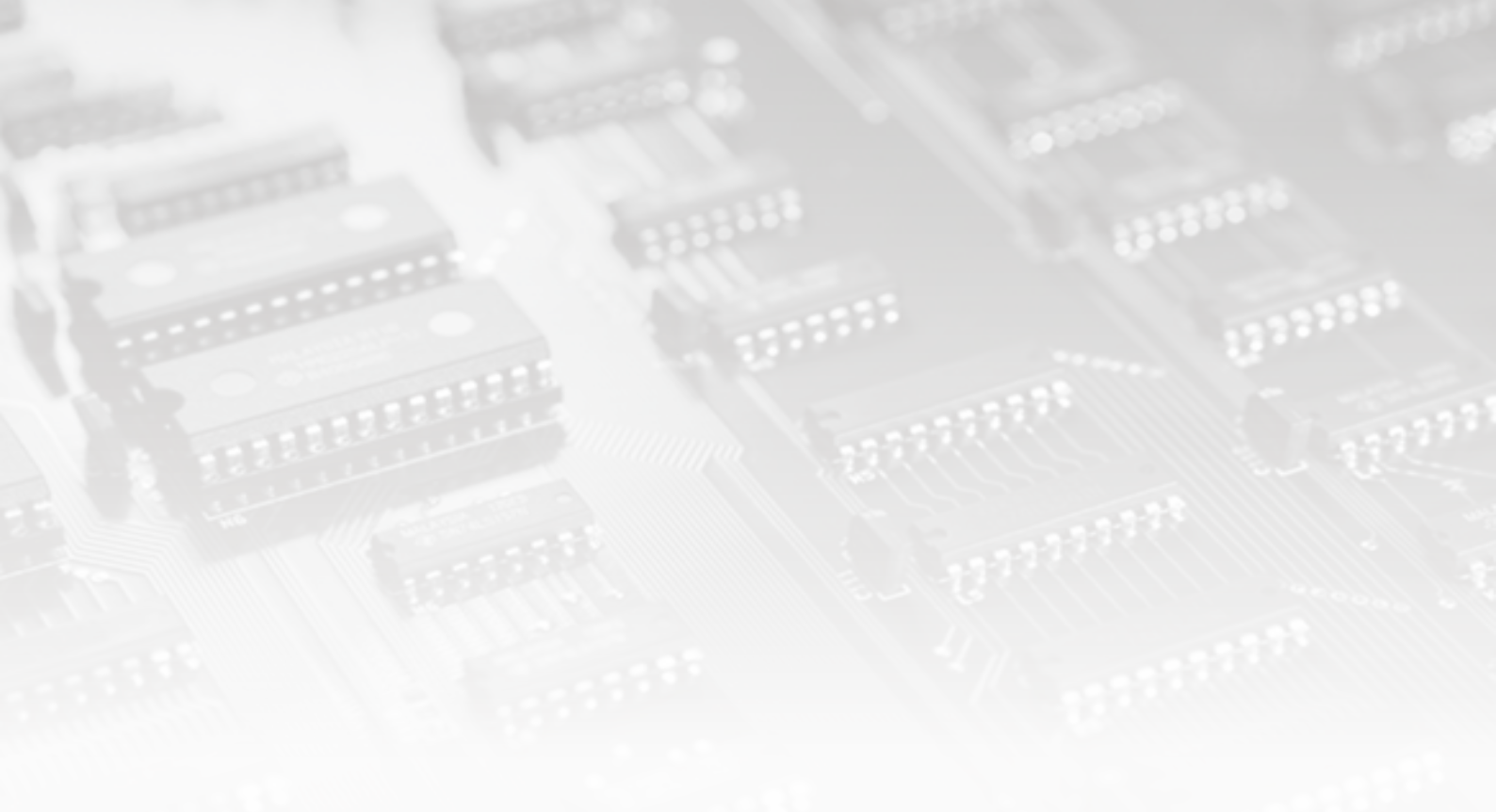
The GUI based characterization software SPS5000 allow user to perform the measurement setup quickly and get the result graphically. It not only directly display the calculated and extracted parameters, but also provide powerful graph analysis tools for further analysis, such as auto-scaling and line operations( constant line, tangent line and regression line). User can also use the strip feature to mark MOSET cut-off or saturation regions on the graph. In addition, SPS5000 supports multiple Y axes capabilities. User can flexibly configure the data types of the X-axis and Y-axis, log or linear scale format according to the analysis requirements.



### User-defined test items

In addition to ready-to-use test items, SPS5000 also provides the function of user-defined test items. You can directly access the hardware of the IT2800 SMU, and set various parameters by yourself, such as output voltage/current, number of sweep steps, sweep range, etc. In addition, in order to speed up the development of the test items, you can copy the code of ready-to-use test items for quick modification without creating from scratch, which greatly improves development efficiency.





This information is subject to change without notice. For more information, please contact ITECH.

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