Precision Meets Efficiency: The Ultimate On-Wafer Testing Solution

MST3000A and PZ2100 SMUs – streamlined, accurate, and reliable for advanced measurements

A Turnkey Solution for On-Wafer Tests

MSTECH's MST3000A on-wafer probe station seamlessly integrates with Keysight's PZ2100 series SMUs to deliver a robust solution for advanced testing across diverse applications. The PZ2100 series offers up to 210 V, 3.5 A DC, and 10.5 A pulse performance with flexible SMU configurations, supporting a broad range of devices from low-power components to high-power modules. The MST3000A features specialized probes for each PZ2100 SMU module, enabling precise, low-noise data acquisition with high repeatability. This solution excels in nanoscale device characterization, semiconductor material evaluation, MEMS performance testing, next-generation display material assessment, and foundational quantum computing research. Combining accuracy and efficiency, this integrated system meets the evolving demands of cutting-edge testing environments.

High accuracy and reliability in a compact system

The MST3000A with PZ2100 SMUs delivers state-of-the-art precision and reliability. It excels in low-leakage current measurements with sensitivity as low as 10 fA. Featuring a 1 µm resolution stage, high-resolution camera, and precise temperature control, the system ensures accurate and consistent performance, even in demanding environments.

Space-saving design for stable measurements

The MST3000A combines a vibration-isolated table and a dark shield box to minimize external interference. Its compact 1U PZ2100A mainframe integrates SMUs with a pulser and digitizer, eliminating the need for extra instruments while conserving space. Ideal for labs and production lines, this intuitive system supports diverse equipment, offering flexibility and a stable measurement environment for a variety of applications.

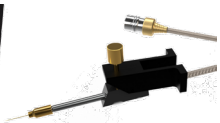
KEYSIGHT

Streamlined measurement for enhanced productivity

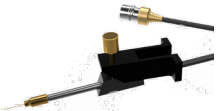
Keysight's PathWave IV Curve Measurement software simplifies current-voltage (IV) testing with seamless, programming-free operation. It enables synchronous measurements and delivers quick insights through intuitive graphical and tabular result views. This powerful tool accelerates research, development, and design verification, boosting productivity and streamlining the testing process.

MST3000A
Probe station

Probe station configuration diagram



High speed probe



High resolution probe

PW9251A
PathWave IV curve measurement software

PZ2110A
High resolution SMU
(2 slot)

PZ2120/21A
High speed SMU
(1 slot)

PZ2130/31A
High Ch density SMU
(1 slot for 5 Ch)

PZ2100A
1U full width
Mainframe (4 slot)

PZ2100 Series SMU key specification

SMU module type	Model#	Density	V range	I range	Min. Resolution	Min. Pulse wdth	Digitizing
High Resolution	PZ2110A	1 Ch /2 Slot	210 V	315 mA	10 fA	20 µs	1.25 MSa/s
High Speed	PZ2120A	1 Ch /Slot	60 V	3.5 A DC (10.5 A Pulse)	100 fA	50 µs	1 MSa/s
	PZ2121A					10 µs	15 MSa/s
High Ch Density	PZ2130A	5 Ch /Slot	30 V	500 mA (Ch1/2: +750 mA *1)	100 pA	NA	NA
	PZ2131A				10 pA	100 µs	500 kSa/s

*1. Ch1 and Ch2 expand the maximum current to +750 mA by over range capability.

- MSTECH is a Keysight Solution Partner.
- To lean more about this solution, go to MSTECH Website for the MST3000A and Keysight Website for the PZ2100 Series.
- Interested in becoming a Keysight Solution Partner? Submit the form to join!

Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences. Start your innovation journey at www.keysight.com.