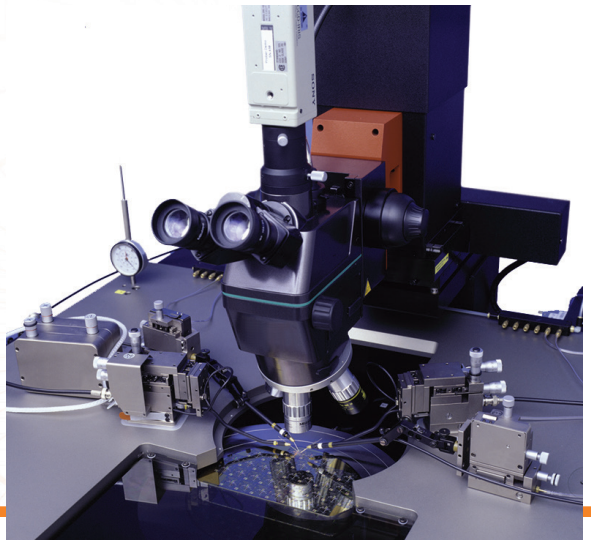
PA300

300 mm Semi-automated Probe System



DATA SHEET

The PA300 is a precise and flexible semi-automated test solution for wafers and substrates up to 300 mm. It is ideal for failure analysis (FA), device characterization and modeling from DC to 500 GHz.

The PA300 utilizes precisely machined components to ensure the highest accuracy and stability. The ground slides and ball-screw drives in closed-loop positioning with glass scales produce excellent performance. Based on your application requirements, you can choose between vacuum, magnetic, or dedicated high-frequency probe platens.

In order to provide maximum flexibility, our modular design concept allows us to mount microscopes based on your needs. This gives you the freedom to upgrade your PA300 from a simple manual microscope stage to a fully programmable microscope with high magnification. A wide range of accessories and upgrade options are also available to optimize test productivity and ease-of-use.

The powerful Velox™ probe station control software features easy on-screen navigation, wafer mapping, automation and seamless integration with analyzers and measurement software. It enables simple operation of motorized positioners and thermal systems. For a wide range of applications, the PA300 probe station powered by Velox software achieves high test efficiency.

FEATURES / BENEFITS

Precision	High Z-axis resolution Stable, Linux-based controller with optional TTL or GPIB interfaces Manual or motorized holder for backside measurement equipment
Flexibility	Variety of wafer carriers, glass chucks, mechanical edge clamping solutions Wafer-handling robot can be docked onto prober Easy to integrate with ProberBench operating environment Interfaces to all major analysis instrumentation, optics software, and testers RF tests supported by a wide range of probes and calibration tools, such as calibration substrates and WinCal XE™ calibration software
Ease of use	Low cost-of-ownership, fast return on investment Upgradable for your future requirements

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Note: For physical dimensions and facility requirements, refer to the PA300 Facility Planning Guide.

SPECIFICATIONS*

Chuck Stage	
Travel range in X and Y	300 mm x 300 mm
Resolution	0.5 µm
Repeatability	± 1 µm
Accuracy	± 2 µm
Planarity	± 15 µm
Maximum speed	50 mm / sec
Z Movement	
Travel range	10 mm
Resolution	0.25 µm
Repeatability	± 1 µm
Theta Movement	
Travel	± 5°
Resolution	0.0001°
Programmable Microscope Movement (Recommended)	
Travel range	50 mm x 50 mm
Resolution	0.25 µm
Repeatability	± 1.0 µm
Accuracy	± 2.5 µm
Access lift	130 mm
Manual Platen Movement	
Drive type	Handwheel
Contact / separation stroke	0.4 mm
Travel	35 mm
Remote Interfaces	
PC	RS232, LAN, GPIB
Utilities	
Power	115 / 230 V, 50 / 60 Hz, 600 W (maximum 1500 VA)
Vacuum	Less than 200 mbar abs.
Compressed air	6 to 10 bar

** Data, design and specification depend on individual process conditions and can vary according to equipment configurations. Not all specifications may be valid simultaneously.*

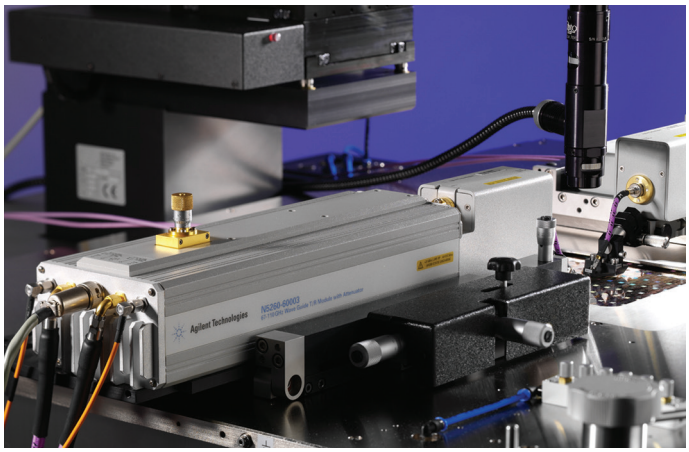
PLATFORM

Velox Probe Station Control Software

The PA300 probe station is equipped with Velox probe station control software. The Velox software provides all features and benefits required for semi-automated operation of the probe system, such as:

- WaferMap with Z-profiling, sub-die stepping, binning and other useful features
- Integrated thermal control
- CellView using stitched image of the full device to enable on-screen navigation within the die layout when using eVue
- Configurable user interface and programmable buttons

APPLICATIONS



Broadband 110 GHz setup for mm-wave IC measurements.

PA300 with Expert Control Panel.

PA300-DS-0715

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