Cascade

PM300PS

300 mm Shielded Manual Probe System

Overview

The PM300PS probe system from FormFactor is the ideal solution for engineering tests of 300 mm wafers and substrates. Whatever your application, the versatility of the PM300PS meets all requirements from failure analysis (FA) to device and wafer characterization (DWC) to wafer-level reliability (WLR) testing and always ensures the highest accuracy. The PM300PS design reduces the tool's electrical noise by providing a fully electromagnetically shielded, ultra-low-noise, light-tight environment. This enables accurate low-noise measurements of atto amperes, femtofarads and microvolts at temperatures down to -60°C. The quiet mode technology safely removes all motor power during critical measurements and is complemented by electrically shielded motors. This provides ideal conditions for even the most sensitive applications such as 1/f noise measurements, when using motorized components like positioner and microscope movement.

The superior mechanics of the probe system are the basis for stable and precise system setup regardless of your application. The X and Y axes of the chuck stage can be moved easily and individually for fast coarse adjustment. Each axis has been designed with an individual magnetic lock and a vacuum brake that enables the fine glide chuck stage to be exactly positioned whenever you release the button. Fine adjustment is ensured for X and Y by high-precision micrometers.

The PM300PS has been designed with the user in mind. You can start out with the basic setup of the PM300PS and the system is scalable to meet your expanding test requirements. For example, thermal chucks or various high-frequency test setups up to mmW are available, as well as motorized probe positioners.

Features / Benefits

Flexibility	• Flexible design for engineering tests • Easy changeover between different applications • Ideal for failure analysis, device and wafer characterization and WLR applications • Wide range of accessories available • Thermal chucks and motorized microscope available
Stability	• Superior mechanics for highest degree of stability
Ease of use	• Quick and easy system set up • Independent, coarse movement of X and Y axes • Easy fine adjustments through high-precision micrometers located on front side of chuck stage • Independent magnetic locks and vacuum brakes for X and Y axes • Ergonomic low-profile design • Spacious top chambers for up to 12 positioner

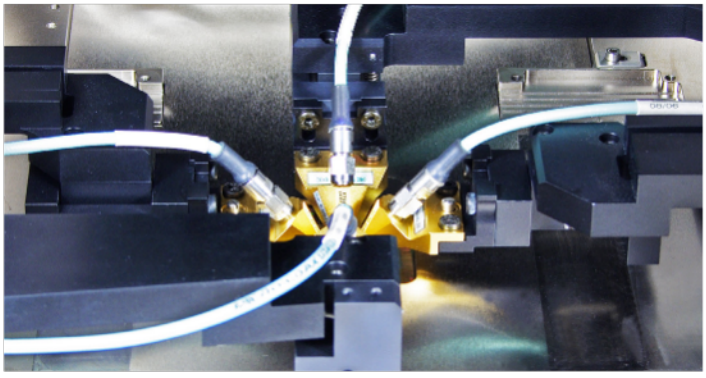
Note: For physical dimensions and facility requirements, refer to the PM300PS Facility Planning Guide.

Specifications*

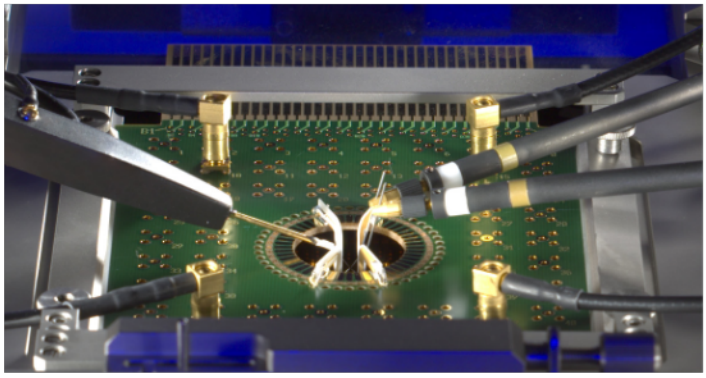
Chuck Stage	
Range of movement	X, Y, theta
Coarse adjustment	300 mm x 300 mm
Fine adjustment	10 mm x 10 mm (63.5 tpi) (~0.4 mm/rev)
Planarity of granite slab over entire range of movement	< ± 2.5 µm
Load stroke	10 mm
Theta travel	± 8°
Chuck	
Diameter	300 mm (optional square)
Planarity	8 µm
Breakdown voltage	> 500 V
Resistance	> 1 TΩ
Probe Platen	
Z travel	40 mm
Contact / Separation stroke	0.4 mm
Utilities	
Power	115 / 230 V, 50 / 60 Hz
Vacuum	- 0.8 bar
Compressed air	4 to 8 bar in for vibration isolation table, 6 to 10 bar Compressed Dry Air (CDA) for thermal system

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

Applications



HF set-up for 4-port broadband measurements.



Simultaneous use of probe card and single probes.

© Copyright 2018 FormFactor, Inc. All rights reserved. FormFactor and the FormFactor logo are trademarks of FormFactor, Inc. All other trademarks are the property of their respective owners.

All information is subject to change without notice.

Corporate Headquarters
7005 Southfront Road
Livermore, CA 94551
Phone: 925-290-4000
www.formfactor.com

PM300PS-DS-0418