PEEC™

Characterization for Thin Substrates

ELECTRONIC ENDPOINT ENHANCEMENT FOR BACKSIDE-THINNED IC's

PEEC is a new, patent pending, characterization module for ASAP-1 IPS digital sample preparation system. PEEC improves sample preparation techniques, particularly at extremely thin remaining silicon thickness (RST).

ENABLING THE NEXT GENERATION OF FAILURE ANALYSIS

PEEC offers several plotting and mapping modes that work in parallel with the ASAP-1 IPS, with the main polishing system acting as the Control Unit.

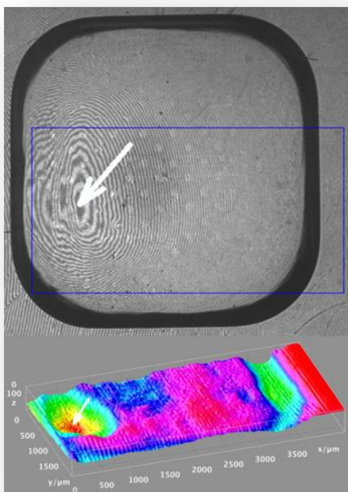
A key feature that PEEC adds to ASAP-1 IPS, is the novel ability to characterize and act upon electronic thresholds obtained from topside circuitry.

MEASURES RST DURING SAMPLE PREPARATION

This information is gathered REAL TIME, through the polishing media, using the actual polishing bit as the probe.

Knowing this information allows the user to make informed preparation decisions, to achieve exactly the required RST, over the specified die area.

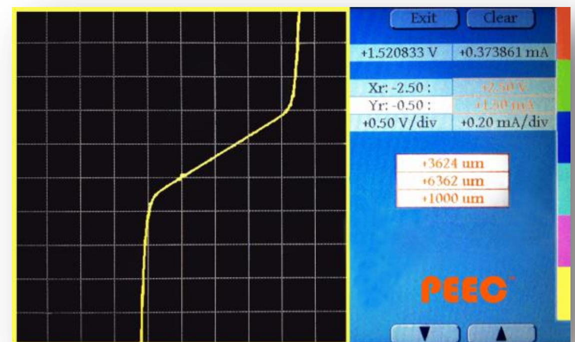
PEEC adds to the Engineers' toolkit in the preparation of parts, for current and future, analytical requirements such as SIL, FIB.



4x4mm pocket area backside thinned on an IC with deliberate tilt to confirm endpoint capability. The indicated spot shows the thinnest remaining silicon (2.5um) on the left. Upper image shows the fringes at 1064nm. Lower image is a C-SPM image of the area, also produced on ASAP-1 IPS.

PRODUCT HIGHLIGHTS

- Through-silicon method
- Uses device IV curves to measure threshold and breakdown characteristics
- **DYNAMIC –** Real-time characterization through polishing media DURING sample prep
- Suits ultra-thin substrate thicknesses-- below measurement limits of other backside metrology methods
- Interactive Touchscreen OS



www.ultratecusa.com

PEEC™ Characterization for Thin Substrates

ORDERING INFORMATION

Order Code	Item	Description
6369.1	PEEC - Proximity Electronic Endpoint Characterization Module	Endpoint / Characterization Module for ASAP-1 IPS -- Includes software and hardware upgrades including external control box, minimum 7 inch touchscreen monitor with custom OS, and parametric source. Requires 6368.1 Endpoint Module to have been pre-installed. **Patent Pending**
6368.1	End-point Detection Module	High Impedance / low capacitance based – Hardware and Software Upgrade for ASAP-1 IPS, to add endpointing -- enhances of decapsulation, de-processing and polishing applications. **Patent Pending**

ASAP-1 IPS

PEEC™

The Convergence of Sample Prep & Analytical Technologies

ULTRA TEC is proud to operate a continuous product improvement program. Product specifications and appearance are subject to modification without prior notification.

Note: ASAP-1® is a Registered Trademark. Portions of the Technology are covered under US and related Worldwide patents - 6,630,369 ; 6,781,232 & 7,066,788. Three other patents rending.

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