TMap Series

VERSATILE METROLOGY SOLUTION

FROM MILLIMETERS TO NANOMETERS

Market Expansion Services by www.dksh.jp

www.unity-sc.com
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The TMap Series' unique « Swiss army knife » design, combining multiple measurement technologies in one system, is the only solution that can measure from nanometers to millimeters.

The TMap Series can measure multiple layer stacks and differentiate them in the order they are placed. Even under highly warped conditions, the TMap Series' state of the art design provides dependable measurement where and when you need it.

Key benefits

- Thickness and surface profiling from sub nanometers to millimeters
- TTV, Bow, Warp in one system
- Simultaneous characterization of top passivation, silicon, molding compound and carrier
- No limitation for high Aspect Ratio TSV and other geometries
- A complete UBM, µbump and RDL characterization solution
- IR inspection and metrology performed at the same time in one shot
- Open chuck with simultaneous measurement capability from both sides of the wafer

Main applications	
Advanced Packaging	2.5 & 3D TSV
Fan-Out Wafer Level Packaging	MEMS

Technology	
Low coherence IR Interferometry	Thickness, air gap, distance, TTV, bow, warp, TSV depth, RST
White Light Interferometry	Thickness (polyimide, photo-resist, passivation)
Spectral Reflectometry	Thin silicon or transparent layer thickness
Confocal Chromatic	Bow, warp, step height, trench depth, edge roll off, edge trim, roughness
Full Field Interferometry	Roughness, nail height
Multi-Illumination IR Microscopy	Overlay/CD, front to back registration, defect inspection

Capability	
Thickness	From 50nm to mm range
CD /overlay	Down to 0.2µm
Bow / warp	Up to several mm
TSV	No AR limitation down to 3µm via diameter
System configuration	Up to 12'' Manual, semi-automatic, fully-automatic SEMI standard compliant

TMap Series

TMap XP

A "Swiss army knife" approach to handle challenging metrology requirement by taking advantage of multiple measurement techniques. Particularly suitable metrology solution for advanced packaging, wafer thinning, advanced substrates, and MEMS.

TMap Fan-Out

A single metrology tool solution for Fan-Out Wafer Level Packaging from molding process start to interconnect completion. Accurate measurement under extreme warp condition. Full stack thickness measurement in one single step, including PI on mold compound.

TMap 3D TSV

A full metrology solution from TSV etch to reveal all the way to 3D stacking. Localization and measurement through the same optics. Best reproducibility results on the market.

About UnitySC

UnitySC is recognized worldwide as a key player in inspection and metrology, combining leading edge technologies in automated optical inspection and 3D imaging with microscopy, temporal mode interferometry, and spectrometry, which enables customers to deliver higher yields and faster time to market. Customers include the largest foundries, IDMs, OSATs, and R&D centers.

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2018/12