Workshop on 3D Interconnect Metrology 2013

San Francisco, California, USA 10 July 2013

ISBN: 978-1-62993-231-6

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Workshop on 3D Interconnect Metrology

July 10, 2013 San Francisco, CA

Presentations

| <u>Overview</u> | VictorVartanian, SEMATECH |
|--|---|
| Metrology Challenges and Needs for 3D Integration | Carlos Beitia, CEA-Leti |
| Progress in Model-Based TSV Profile Metrology and Its Contribution to 3D Integration Yield | Renan Milo, Nova Measuring Instruments, Ltd. |
| Optical Metrology Tools for 3D IC Packaging | Arun Aiyer, Frontier Semiconductor |
| Inspection & Metrology on a Common Platform for Advanced Packaging in HVM | David Grant, Rudolph Technologies |
| Detection of 3D Interconnect Bonding Voids by IR | Jonny Hoglund, Semilab |
| <u>Microscopy</u> | |
| <u>New Scanning Acoustic Microscopy Technologies Applied</u> to 3D Integration Applications | Peter Czurratis, PVA-Tepla |
| Enabling 3D Stacked Integrated Circuits Through | Richard Allen, NIST |
| Measurement Standards | |
| Integrated Metrology for TSV Reveal | Laura Mauer, SSEC |
| In-line IR Metrology for High-Volume Temporary Bonding Applications | Markus Wimplinger, EVG |
| 2D & 3D Inspection and Metrology Application Study for 3DIC | Omri Katz, Camtek |
| <u>Development of C-SAM® Imaging Capabilities for</u> <u>Thin, Multi-layer Structures such as Stacked Die and 3D</u> ICs | Steve Martell, Sonoscan |
| Site-Specific Inspection and Analysis of 3D Interconnects using Plasma-FIB Technology | Richard Young, FEI |
| <u>3D X-Ray Microscopy Replaces Physical Cross-Section in</u> <u>3DIC Packaging</u> | Yuri Sylvester, Xradia |
| Automated, Non-Contact Optical Metrology For 2.5D and 3D IC Manufacturing | Vamsi Velidandla, Zeta Instruments |
| Advancements in Digital X-ray and CT scanning | Ben Connors, North Star Imaging |

Posters

| Characterization of Local Stress in Silicon around Through- Silicon Via Interconnects by Using micro Raman Spectroscopy | Jae Hyun Kim, KAIST Takeshi Ueda, WaferMasters Woo Sik Yoo, WaferMasters Seung Min Han, SK hynix |
|---|---|
| Fully Automated High-Precision Metrology System for 3D Advanced Wafer Packaging | ISIS |
| T-MAP Dual 3D 300A Full Process Control Solution for 3D IC TSV | FOGALE nanotech |
| <u>3D Compositional Analysis of Nanoparticles by TOF-</u> <u>MEIS</u> | W. J. Kim, K. H. Jung, K. S. Yu, K-MAC K. W. Jung, ETRI D. W. Moon, DGIST |
| Time of Flight MEIS-K150 | K-MAC |
| Demonstration of an Effective Measurement Technique for Reliability Analysis of TSVs: The RF-Based Technique | Chukwudi Okoro, NIST |