

A comprehensive guide to 3D MEMS packaging methods and solutions.



Advanced MEMS Packaging

John H. Lau, Cheng Kuo Lee, C.S. Premachandran & Yu Aibin

Written by experts in the field, *Advanced MEMS Packaging* serves as a valuable reference for those faced with the challenging problems created by the ever-increasing interests in MEMS devices and packaging. This authoritative guide presents the latest cutting-edge MEMS (Microelectromechanical Systems) packaging techniques, such as low-temperature C2W and W2W bonding and 3D packaging.

Ideal for anyone who needs to choose a reliable, creative, high-performance, robust, and cost-effective packaging technique for MEMS devices, this book will also aid in stimulating further research and development in electrical, optical, mechanical, and thermal designs as well as materials, process, manufacturing, testing, and reliability. Among the topics explored:

- Advanced IC and MEMS packaging trends
- MEMS devices, commercial applications, and markets
- More than 360 MEMS packaging patents
- More than 10 3D MEMS packaging designs
- TSV for 3D MEMS packaging
- MEMS wafer thinning and thin-wafer handling
- Low-temperature C2C, C2W, and W2W bonding
- MEMS vacuum packaging
- Reliability of RoHS compliant MEMS packaging
- In-suit stress sensors for MEMS packaging
- Micromachining and wafer bonding technologies
- Wafer level encapsulation and chip capping
- Actuation mechanisms and integrated micromachining
- Bubble switch MEMS Packaging
- Optical switch MEMS packaging
- VOA MEMS packaging
- Bolometer MEMS packaging
- Accelerometer MEMS packaging
- Bio MEMS packaging
- Biosensor MEMS packaging
- RF MEMS switches
- RF MEMS tunable circuits
- RF MEMS packaging
- MEMS wafer dicing

978-0-07162623-1 0-07-162623-9 \$150.00 Hardback 552 pages January 2010

Visit www.mhprofessional.com and use promo code "Lau2009" for a 20% discount!