Announcement and Call for Papers

Advanced Technology Conference and Tabletop Exhibits on Non-Hermetic Packaging Technology for Reliable Microelectronics

www.imaps.org/hermetic

*(Co-located with IMAPS-Florida Southeastern Microelectronics Packaging Conference, **January 17, 2012** – **www.imaps.org/southeast**)*

January 18, 2012

Rosen Centre Hotel
9840 International Drive
Orlando, Florida - USA

Abstract Deadline: September 23, 2011

Technical Co-Chair:	Technical Co-Chair:
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Conference Focus: Hermetic packaging has long provided the required protection from dust, dirt, contamination, moisture, and other threats to operating reliability for sensitive electronic devices. Hermetic packages are expensive and technical and manufacturing resources for them are diminishing in availability. Designers are searching for ways to lower cost, reduce weight and increase performance by looking to design-in alternate material sets including engineered plastics such as LCP and robust barriers offering enhanced protection from moisture permeation. There are a variety of materials and approaches that hold the promise of enhancing reliability of non-hermetics while reducing cost. The problem essentially becomes one of minimizing moisture diffusion through the bulk of package materials and at package/lead interfaces. Packages made from polymeric materials, or robust barrier coatings, as opposed to traditional hermetic seals (i.e. metal, ceramics, eutectic etc.) require a different approach from a reliability testing and qualification standpoint.

Packaging technologies and materials that are not hermetic, and that offer reliability without hermeticity, are available to the industry. These approaches include flip-chip laminate designs or cavity packages made of materials that provide physical protection for sealed devices, but which are not positively absolute barriers to moisture. The conference proposes to bring together providers of non-hermetic concepts, products, and materials, with package designers, manufacturing and assembly production engineers, quality and reliability managers, and program managers to explore and explain enhanced moisture resistance packaging and provide technical guidance to those capabilities for potential users of such packages especially, for high reliability environments with extended service life expectations.

Abstracts are solicited in the following areas:

High Rel Packaging Concepts	**Class Y**
• Cavity packages • Molded or potted packages • Flip-chip packages	• Non-hermetics for space • Qualification device • Test methods and current status
Materials • Engineered plastics • Low permeability materials • Adhesives, underfills • Physics and chemistry of ultra- low permeability materials	**Yield and Reliability** • Yield experience • Field service experience to date • MTBF plastic vs Hermetic • Manufacturing and supplier base
Passivations and Coatings • Die passivation, nitrides, etc. • Conformal and barrier coatings • Hydrophobic treatments	**Testing and Qualification** • Alternate methods to TM 1014 • RGA and how does it apply • Polymeric materials (5011) • Permeation test cell • TGA, WVTR, etc.
Failure Modes • Corrosion • Electrical stability • Interface integrity; delamination	**Modeling** • Fick's Law • Diffusion coefficients • MTBF expected life calculations

Those wishing to present a paper at the **Non-Hermetic Packaging Technology for Reliable Microelectronics Conference must submit a 250-300 word abstract electronically no later than September 23, 2011,** using the on-line submittal form at: www.imaps.org/abstracts.htm. Full written papers are not required; however, an extended abstract of 1-4 pages is due for accepted presenters no later than December 14, 2011. Please contact Jackki Morris-Joyner by email at jmorris@imaps.org or by phone at 202-548-4001 if you have questions. **All Speakers are required to pay a reduced registration fee and are required to attend the entire event.** Accepted papers may be considered for publication in the IMAPS *Journal of Microelectronics and Electronic Packaging*.

Student Competition sponsored by The Microelectronics Foundation:

The Microelectronics Foundation sponsors Student Paper Competitions in conjunction with all Advanced Technology Workshops (ATWs) and Conferences. Students submitting their work and identifying that "**Yes, I'm a full-time student**" on the abstract submission form; will automatically be considered for these competitions. The review committee will evaluate all student papers/posters and award at least one student author with a $1,000 check. The selected student must attend the event to present his or her work and receive the award. The Foundation will return the registration fee for the winner. The winner must pay for travel and lodging expenses.