Epoxy Underfill Challenges for Copper (Cu) Pillar Solder Bump Packages

Brian Schmaltz – schmaltz@namics-usa.com - Regional Manager at NAMICS Technologies
Yukinari Abe - yukinari@namics.co.jp - Technical Support Manager at NAMICS Technologies
Kazuyuki Kohara - kohara@namics.co.jp – Senior Insulating Materials Scientist at NAMICS Corp.
2055 Gateway Pl Suite 480, San Jose, CA 95110

Speaker: **Ken Araujo** – E-Mail: Araujo@namics-usa.com

Abstract

From Eutectic, to Lead Free, to Copper Pillar Bumping Technologies. As technology progresses to smaller process generations, new packaging applications are being demanded. The standard solder ball reflow process is being pushed by advancements in Copper (Cu) pillar capped bumps, which in turn allows for high density lead free IO counts at sub 40um bump pitches. Even so, low CTE epoxy materials are still needed in order to dissipate stress concentrations seen during thermal cycling. What epoxy challenges await this next technological revision? This presentation will centralize around the latest advancements in epoxy materials for Advanced Packaging Technology; Capillary Underfill (CUF) for narrow pitch Lead Free Copper (Cu) Pillar Solder Bump packages.