



## Technology Development in Today's Global Environment

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### **HDP User Group International Publishes General Purpose Lead Free Process Optimization Project Report**

• *Organization publishes comprehensive General Purpose Lead Free Process Optimization report. Report is available on [www.hdpug.org](http://www.hdpug.org) • HDPUG will continue to lead projects focused on environmentally-preferable technologies*

Scottsdale, Arizona July 31, 2009 -- The High Density Packaging User Group International, Inc. (HDP User Group), a global non-profit cooperative research and development organization for the Electronics Manufacturing industries, announced the publication of the General Purpose Lead Free Process Optimization project report. The report details the activities and results of an extensive study involving 15 HDP User Group members to optimize the surface mount solder reflow process setup for large and physically complex printed circuit board designs. The report is available for download at [www.hdpug.org](http://www.hdpug.org).

"The General Purpose Lead Free Process Optimization study was conducted to assist in defining an acceptable assembly process window that would allow complex printed circuit boards with a variety of different size, weight and thermal mass devices to be successfully assembled without having to make compromises on product reliability," said Thilo Sack (Celestica), Project Lead for the HDP User Group GPLF Initiative. "The publication of the HDP User Group General Purpose Lead Free Process Optimization Report provides details on the impacts to solder joint reliability and microstructure changes resulting from having to operate at the extremes of the assembly process window to accommodate the significant assembly challenges associated with high complexity designs." Since the late 1990s, the HDP User Group has been a major contributor in the development and testing of lead free materials and processes. The consortium members have worked in collaboration on a wide range of development and reliability testing projects that have increased industry understanding on this new process technology. The general process lead free (GPLF) process optimization project evaluated the capabilities of today's surface mount reflow facilities and assessed the performance of printed circuit assemblies manufactured under a range of reflow conditions, optimized to prevent overheating of low thermal mass components. A total of 120 test vehicles and in excess of 5,000 components were used throughout the project. The report provides comprehensive reliability test data, supported by extensive failure analysis photographic evidence, and provides a valuable insight into the structure and performance of tin-silver-copper solder joints under varying heating conditions.



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### **About the HDP User Group International Inc.**

HDP User Group ([www.hdpug.org](http://www.hdpug.org)) is a global research and development organization based in Scottsdale, AZ, dedicated to "reducing the costs and risks for the Electronics Manufacturing industry when using advanced electronic packaging and assembly". This international industry led group organizes and conducts R&D programs to address the technical issues facing the industry, including design, printed circuit board manufacturing, electronics assembly, and environmental compliance. HDP User Group maintains additional offices in Austin, Texas; Stockholm, Sweden; and Tokyo, Japan.

For more information, visit HDP User Group on the Internet at [www.hdpug.org](http://www.hdpug.org) or contact Darryl Reiner, phone number +1 480-951-1963.

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