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For Immediate Release

PHOTO STENCIL DEVELOPS LEAD-FREE INSTRUSIVE REFLOW SOLUTION

Technical paper outlines method for eliminating wave soldering process

COLORADO SPRINGS, Colorado – June 4, 2007 – Photo Stencil, the leading provider of premium stencils and additional high-end tooling for the SMT assembly industry, has developed a new process – “Intrusive Reflow of Lead-Free Solder Paste.” The resulting paper outlines a procedure that increases efficiency for process engineers by eliminating the wave soldering process altogether.

Dr. Bill Coleman, vice president of technology for Photo Stencil wrote the paper and ran tests to improve the printing process for lead-free materials. In the intrusive reflow process, solder paste is printed on and around the through-hole area, as well as in the through-hole itself. Through-hole devices are placed along with the SMT devices and processed together during reflow.

One objective of the study was to maximize the amount of solder paste printed into the through-hole (% hole fill). With proper squeegee speed and squeegee angle, 100% hole fill was achieved for 63 mil thick boards and 85% hole fill for a 93-mil thick boards with a 6 mil thick stencil. This resulted in good top and bottom fillets and continuous solder fill around the pins with a 6 mil thick stencil for both 63 and 93 mil thick boards for resistors, DIPs and four row header arrays.

“Results of the study are very encouraging since, with proper pin-to-hole ratios and screen printer set-up, a 6-mil stencil is successful in providing good lead-free through-hole solder joints,” explains Dr. Coleman.

X-ray pictures of paste hole fill and cross-section pictures of through-hole pins after reflow are shown in the paper. To download the paper in full, please visit www.photostencil.com/techpapers.htm. For questions, contact Dr. Bill Coleman at (719) 535-8528 or e-mail at bcoleman@photostencil.com.

Photo Stencil

Photo Stencil is a full-service provider of high-performance stencils and tooling for the surface mount technology (SMT) assembly industry. Photo Stencil's technology includes the patented AMTX E-FAB® electroformed stencils, the new high-performance proprietary NicAlloy™ stencil, laser-cut stencils and chem-etch stencils. Step or multilevel stencils are available in all three of the stencil technologies. Stencil design support and customer specific design libraries are provided.

Other SMT tooling includes thick film and metal mask screens. Photo Stencil offers a complete line of squeegee blades, featuring the patented E-Blade® electroformed squeegee blade. Solder pallets, SMT process carriers and populated PCB inspection templates are also available.

Headquartered in Colorado Springs, Photo Stencil was founded in 1979 and currently holds many patents and trademarks, such as AMTX E-FAB electroformed stencils. The company has additional manufacturing facilities in Mexico and Malaysia. More information is available at www.photostencil.com.

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