

Shin-Etsu Introduces Novel Photoresists for Plating and Dielectric Films for Bump Processing and Thick Resist Applications

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PHOENIX--(BUSINESS WIRE)--April 5, 2006--Shin-Etsu announced the development and release of two new photoresist materials for dielectric films and thick plating bump applications. SIPR(TM) 7123 photoresist is a second generation positive tone thick photoresist capable of a single coat up to 100um thick. This new photoresist has excellent performance on copper, improved photo speeds and is easily stripped with standard solvents after plating. This new formulation also eliminates cracking during plating. The SIPR 7123 grade is currently available.

The second material, SINR(TM) AD50, is a TMAH developable siloxane based photoresist applicable for stress buffer applications. It has a dielectric constant in the 3.0 range and requires a curing temperature around 230 degrees C. SINR AD50 has an extended shelf life and can be processed with standard photolithography equipment, greatly reducing the cost of ownership. The SINR AD50 grade is currently available.

The widespread adoption of advanced packaging techniques is driven by electrical device performance and chip form factor considerations. Flip chip packaging is currently growing at a 27% compound annual rate, it is expected that a majority of all 300mm wafers including DRAM will be bumped. To ensure optimal productivity and cost of ownership, it is imperative to employ lithographic materials that are optimized for these applications and that meet all device specific requirements.

Bump processing typically has one or more levels that require a permanent layer either to relieve stress on the die (stress buffer layer) or to redistribute electrical connections (redistribution layer). Since these layers remain on the wafer, the mechanical and electrical properties of the material are as important as the lithographic properties. In addition, subsequent plating layers require a photoresist that is capable of 100um thick coatings.

About Shin-Etsu

Shin-Etsu Chemical Co., Ltd. (TOKYO:[4063](#) - [News](#)) the Tokyo based chemical company, is the world's largest supplier of semiconductor materials, semiconductor silicon, PVC resin, synthetic quartz glass and methylcellulose and is a major producer of materials including silicones and rare earth magnets. The company's home page on the World Wide Web is located at <http://www.shinetsu.co.jp>

Contact information in the U.S.A.:

Shin-Etsu MicroSi, Inc. is a wholly owned subsidiary of Shin-Etsu Chemical Co., Ltd., a global leader in research, development and the manufacture of chemicals used in the semiconductor industry. From its headquarters in Phoenix, Arizona, Shin-Etsu MicroSi provides high performance products and materials.

(480) 893-8898 or info@microsi.com or www.microsi.com

Shin-Etsu's Safe Harbor Statement:

Certain of the statements contained herein may be considered forward-looking statements that involve risks and uncertainties.

Contact:

Shin-Etsu MicroSi, Inc.
Elliott Capsuto, 650-937-0000
ecapsuto@microsi.com
info@microsi.com
or
Kirkpatrick Communications
Bruce Kirkpatrick, 925-244-9100
brucekirk@kirk-com.com
Source: Shin-Etsu MicroSi, Inc.