Applied Materials Delivers High-Performance TSV Etch with Innovative Silvia(TM) System

December 1, 2008

SANTA CLARA, Calif., Dec 01, 2008 (BUSINESS WIRE) -- Applied Materials, Inc. today unveiled its Applied Centura(R) Silvia(TM) Etch system, specifically designed to enable high-performance, low-cost, through-silicon via (TSV) applications. In addition to delivering a higher silicon etch rate and significantly lower operating costs than competitive systems, the Silvia system's precise profile control enables the smooth, vertical via sidewalls that are critical for the subsequent deposition of high-quality liner and fill films. The highly flexible Silvia system can etch both silicon and oxide in the same chamber, making it an ideal choice for established and emerging TSV integration schemes.

"Via etch is a key process in TSV fabrication where multiple etch steps can represent a significant portion of the total cost; therefore we have focused on providing a system that overcomes the traditional etch rate/profile tradeoff while significantly lowering the cost of ownership," said Ellie Yieh, vice president and general manager of Applied Materials' Etch and Cleans Business Unit. "The Silvia system is a natural extension of our long-standing leadership in deep trench silicon etch - with an installed base of more than 200 chambers. Delivering high productivity, cost-efficient TSV etch, the Silvia system enables high quality, low cost, volume manufacturing for both wafer fabs and packaging houses."

The Silvia system's uncompromising performance is achieved with Applied's proprietary time-multiplexed gas modulation (TMGM) process. While conventional TMGM processes etch vias with heavily scalloped sidewalls that are difficult to fill, the Silvia system achieves smooth, vertical profiles at the rapid etch rates required for high productivity manufacturing.

The Silvia system's exceptional profile control accommodates a broad range of TSV schemes, each with different challenges. In the via-first scheme, the Silvia system provides the required profile control and high selectivity to photoresist for etching very small, deep holes with very smooth sidewalls. The Silvia system is equally well-equipped to meet the demands of via-last schemes, which are performed by packaging and semiconductor customers where cost of ownership (COO) is critical. The Silvia system delivers the lowest COO through low-cost consumables and a high reliability platform design that has been proven over a decade of high-volume manufacturing.

For more information on the Applied Centura Silvia Etch system, please visit: www.appliedmaterials.com/products/silvia_etch_4.html.

Applied Materials, Inc. (Nasdaq:AMAT) is the global leader in Nanomanufacturing Technology(TM) solutions with a broad portfolio of innovative equipment, service and software products for the fabrication of semiconductor chips, flat panel displays, solar photovoltaic cells, flexible electronics and energy efficient glass. At Applied Materials, we apply Nanomanufacturing Technology to improve the way people live. Learn more at www.appliedmaterials.com.

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