3M and TAZMO Announce Agreement on Temporary Wafer Bonding Technology to Enable 3-D Semiconductors

3M, a leading supplier of advanced materials to the semiconductor industry, and TAZMO CO., LTD, a leading supplier of semiconductor and LCD manufacturing equipment, today announced an agreement to allow TAZMO to manufacture and sell equipment for temporary bonding of ultrathin wafers required for 3-D packaging. As part of this agreement, TAZMO becomes a 3M Authorized Equipment Supplier for equipment that is configured to use 3M™ Wafer Support System (WSS) materials including 3M's Liquid UV-Curable Adhesive and Light-To-Heat Conversion coating. Under the agreement both companies will continue to work closely to address customer demands for high-performance process solutions that support high-volume manufacturing with a competitive Cost of Ownership.

The 3M Wafer Support System includes equipment and materials that allow for temporary wafer bonding to support wafer thinning and subsequent processing of ultra thin wafers for 3D packaging. 3M's innovative use of a UV curable adhesive for wafer bonding to glass carriers provides robust wafer support throughout wafer grinding and throughout subsequent multiple high-temperature processing cycles. After processing, 3M's unique Light-To-Heat Conversion layer allows low stress, room temperature debonding of the thinned wafer directly to a tape carrier. The thinned wafer is supported throughout the entire process thereby minimizing warpage, stress and process complexity. As compared to other processes that expose the thinned wafer to high-temperature and stress or other processes that use solvents to release the thinned wafer, 3M's process and materials solutions enables high-volume manufacturing at multiple semiconductor sites worldwide today.

"This agreement extends the long and successful relationship between 3M and TAZMO and ensures our customers access to the TAZMO equipment previously sold under the 3M™ brand," said Mike Bowman, marketing development manager for 3M Electronics Markets Materials Division. "Under the agreement, customers can purchase the equipment directly from TAZMO, simplifying the equipment sales and support process. This enables 3M focus on its core strengths in materials development to address customer requirements for advanced materials for 3-D semiconductor manufacturing."

Since 2004 TAZMO has worked with 3M to design and develop equipment for temporary bonding of ultrathin wafers to optimize 3M's materials. This joint development has resulted in multiple systems that have been placed worldwide. "Our continued relationship with 3M provides a combined focus of advanced 3-D packaging semiconductor technology allowing both companies to focus on core customer values by offering the best process materials and the best process equipment," said Hiroshi Yamabe, General Manager for TAZMO System Equipment Department

About TAZMO
TAZMO CO., LTD is the world's leading manufacturer of process equipment for spin coating. Headquartered in Japan and established in 1972, TAZMO is highly respected for their advanced technology worldwide and supplies manufacturing equipment for coating of semiconductor wafers, FPD, OLED and Solar Module large size glass substrates. For additional information, please visit www.tazmo.co.jp.

About 3M
A recognized leader in research and development, 3M produces thousands of innovative products for dozens of diverse markets. 3M's core strength is applying its more than 40 distinct technology platforms – often in combination – to a wide array of customer needs. With $25 billion in sales, 3M employs 75,000 people

worldwide and has operations in more than 60 countries. For more information, visit http://www.3M.com.

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