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KLA-Tencor Introduces New Surfscan SP2XP Monitor-Wafer Defect Inspection System for IC Fabs

MILPITAS, Calif.--(BUSINESS WIRE)--

Today, KLA-Tencor Corporation (NASDAQ:KLAC) introduced the Surfscan(R) SP2XP, a new monitor-wafer inspection system for the integrated circuit (IC) market that builds upon the success of its sister tool with the same name, introduced last year for the wafer manufacturing market. The new Surfscan SP2XP features improved sensitivity to defects on silicon, poly and metal films and enhanced ability to sort defects by type and size, compared with its predecessor, the industry-leading Surfscan SP2. It also features vacuum handling and best-in-class throughput. These capabilities are designed to enable chipmakers to bring their leading-edge (greater than or equal to 4Xnm) devices to market faster by delivering superior process tool monitoring throughout the fab. The new system also introduces an ultra-high sensitivity operating mode to accelerate fabs' development of 3Xnm and 2Xnm next-generation devices.

"Manufacturers of high performance devices are seeing the complexity of the chip-making process increase at the same time that market windows for these devices are tightening," observed Mike Kirk, vice president and general manager of the Wafer Inspection Group at KLA-Tencor. "The Surfscan SP2XP system addresses the need to quickly flag process tools which are generating excessive defectivity, so that the problem can be corrected with minimal wafer scrap, yield loss and market delay. Our new tool addresses this challenge, not only through advancements in sensitivity and throughput, but also by introducing the capability to distinguish particles from microscratches and residues without the need to expend resources on SEM review. We believe the Surfscan SP2XP will help fabs accelerate production of their leading-edge devices."

Opto-mechanical and signal processing improvements are designed to ensure capture of even the smallest defects on bare wafers, as well as front-end and back-end films. Unique, patented multi-channel architecture and innovative algorithms enable the Surfscan SP2XP system to automatically differentiate defect types. The tool also delivers superior throughput to that of the previous-generation, industry-leading Surfscan SP2, enabling fabs to inspect more wafers per hour or to use a higher sensitivity setting without loss of throughput. The Surfscan SP2XP upholds the platform's reputation for reliability, ease-of-use and system matching.

Strong interest in the Surfscan SP2XP system has resulted in several orders from fab equipment manufacturers as well as leading logic and memory fabs in Asia, the United States and Europe. The January 2007 release of the edge-handling version of the Surfscan SP2XP system, for the wafer manufacturing market, has rapidly gained broad market acceptance, with installations of multiple systems at every leading wafer manufacturer.

TECHNOLOGY SUMMARY

Improvements to mechanical, optical and signal-processing subsystems enable the Surfscan SP2XP monitor-wafer inspection system to deliver several advantages over its predecessor, the industry-leading Surfscan SP2. These include:

-- Up to 36 percent throughput boost resulting from a combination of changes in opto-mechanics, electronics and software

-- Unique, patented multi-channel architecture that enables the Surfscan SP2XP system to automatically distinguish particles from microscratches, voids, watermarks and other residues

-- The introduction of Ultra-High Sensitivity mode, allowing the Surfscan SP2XP system to be utilized for development of next-generation chips

-- An opto-mechnical innovation that enhances the tool's sensitivity to defects on rough films such as polysilicon, tungsten and copper. Together with the platform's benchmark sensitivity on smooth films, the new capability allows the Surfscan SP2XP platform to be used throughout the fab, thereby yielding potential improvements to the fab's operating efficiency

-- A new differential interference contrast (DIC) channel that enables capture of shallow, flat and faint defects-of-interest such as residues or bumps--all of which can result in device failure, particularly for advanced devices

-- Newly extended defect sizing capability, delivering improved defect binning accuracy for faster identification of the defect source

About KLA-Tencor: KLA-Tencor Corporation is the world's leading supplier of process control and yield management solutions for the semiconductor and related microelectronics industries. Headquartered in Milpitas, Calif., the company has sales and service offices around the world. An S&P 500 company, KLA-Tencor is traded on the NASDAQ Global Select Market under the symbol KLAC. Additional information about the company is available at http://www.kla-tencor.com (KLAC-P).

Source: KLA-Tencor Corporation