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KLA-Tencor Extends Reticle Defect Management Toolset With New TeraFab™ HT and eDR™ -5210S Systems

MILPITAS, Calif., July 12 /PRNewswire-FirstCall/ -- Today KLA-Tencor Corporation® (Nasdaq: KLAC), the world's leading supplier of process control and yield management solutions for the semiconductor and related industries, introduced the TeraFab™ HT reticle inspector and eDR™ -5210S wafer defect review tool. These new tools are designed to address the accelerating problem of reticle contamination in leading-edge semiconductor foundries, and other advanced chip fabrication facilities, through early detection of reticle defects and fast, accurate wafer dispositioning after a reticle defect is found.

The presence of contamination on a reticle during device manufacturing can be catastrophic, since a defect on the reticle has the potential to generate a defect in every die on every wafer printed from that reticle. Generally, the most cost-effective control strategy is to detect contamination on the reticle before it is extensive enough to result in defects on the wafer. When contamination is detected, the reticle is sent for cleaning and re-qualification while the wafers printed most recently are checked for defects.

"Our leading-edge customers are facing two major challenges in reticle contamination control," said Zain Saidin, chief engineer at KLA-Tencor and group vice president of the reticle inspection and e-beam technology divisions. "First, fabs need more reticle defect inspection sensitivity with each device generation: linewidths shrink, smaller reticle defects print and smaller defects on the wafer can affect yield. Second, the process to review reticle-induced defects on the wafer needed to be significantly faster, so that a statistically representative number of die could be checked and the number of die with reticle-induced defects could be determined accurately—even under the extreme cycle-time pressure of a leading-edge fab. It is costly to scrap wafers unnecessarily—or worse, pass them to the next process step with unrecognized defects. Our TeraFabHT and eDR-5210S systems are engineered to address these critical issues."

The **TeraFabHT** reticle inspection system features improvements to the previous-generation TeraFab's laser, sensor, optical path and signal processing algorithms, including KLA-Tencor's patented *STARlight*™ mode, that enable the following capabilities:

- Increased detection sensitivity and throughput compared with previous-generation TeraFab and SLQ reticle defect inspection systems
- Inspection of single-die and multi-product masks, leading-edge mask types using novel materials (such as opaque MoSi on glass [OMOG]) and designs employing unusually small optical proximity correction (OPC) features
- Up to three sensitivity and throughput settings, promoting cost-effective inspection of critical and non-critical masks across a variety of device nodes

The **eDR-5210S** e-beam wafer defect review system features high resolution, unparalleled stage accuracy, new algorithms and unique connectivity to the TeraFabHT, enabling the following capabilities:

- Innovative Reticle Defect Review (RDR) mode, with seamless translation of reticle to wafer coordinates, to allow significantly simplified, accelerated review of potential reticle-induced defect sites
- Characterization of printing variability of reticle-induced defects across the wafer
- Enhanced acceleration and accuracy of wafer dispositioning using proprietary data from the TeraFabHT about mask orientation and defect characteristics

KLA-Tencor's TeraFabHT reticle inspection system and eDR-5210S wafer defect review tool can be purchased as new systems or as field upgrades from the previous-generation inspection and review toolset. Both tools are compatible with KLA-Tencor's industry-leading 28xx broadband wafer inspection systems and Klarity® Defect data management and analysis systems, enabling thorough monitoring of reticle-originating defects and efficient tracking of reticle defect history across the fab. To maintain high performance and productivity, the TeraFabHT and eDR-5210S tools are backed by KLA-Tencor's global, comprehensive service network, and the eDR-5210S is further supported by KlearPoint™ client-server real-time tool monitoring system. For more information on KLA-Tencor's reticle management solution or the individual tools comprising the portfolio, please visit the product web pages at: <http://www.kla-tencor.com/front-end-defect-inspection/terafab-series.html> and <http://www.kla-tencor.com/defect-review/edr-52xx-series.html>.

About KLA-Tencor:

KLA-Tencor Corporation (Nasdaq: KLAC), a leading provider of process control and yield management solutions, partners with customers around the world to develop state-of-the-art inspection and metrology technologies. These technologies serve the semiconductor, data storage, LED, photovoltaic, and other related nanoelectronics industries. With a portfolio of industry-standard products and a team of world-class engineers and scientists, the company has created superior solutions for its customers for over 30 years. Headquartered in Milpitas, California, KLA-Tencor has dedicated customer operations and service centers around the world. Additional information may be found at www.kla-tencor.com. (KLAC-P)

Forward Looking Statements:

Statements in this press release other than historical facts, such as statements regarding TeraFabHT's and eDR-5210S's expected performance, future developments and trends in the semiconductor industry (and the anticipated challenges associated with them), expected uses of the TeraFabHT and eDR-5210S by KLA-Tencor's customers, and the anticipated cost, operational and other benefits realizable by users of the TeraFabHT and eDR-5210S tools are forward-looking statements, and are subject to the Safe Harbor provisions created by the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current information and expectations, and involve a number of risks and

uncertainties. Actual results may differ materially from those projected in such statements due to various factors, including delays in the adoption of new technologies (whether due to cost or performance issues or otherwise), the introduction of competing products by other companies or unanticipated technological challenges or limitations that affect the implementation, performance or use of KLA-Tencor's products.

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