December 5, 2011

KLA-Tencor Introduces Additions to SensArray™ Portfolio of Semiconductor In-Situ Process Monitoring Solutions

Wireless Temperature Monitoring Wafers Designed to Improve Return on Investment (ROI) of Process Equipment

MILPITAS, Calif., Dec. 5, 2011 /PRNewswire/ -- KLA-Tencor Corporation (NASDAQ: KLAC), the world's leading supplier of process control and yield management solutions for the semiconductor and related industries, today introduced new additions to its SensArray portfolio of advanced wireless temperature monitoring wafers. The portfolio implements time-based, in-situ temperature monitoring to capture the effect of the process environment on production wafers, which helps integrated circuit (IC) manufacturers improve their capital equipment ROI.

Developed through collaboration with leading IC manufacturers and original equipment manufacturers (OEMs), the EtchTemp™-SE (ET-SE), ScannerTemp™ and WetTemp™-LP products enable customers to monitor temperature information across the entire wafer surface under real process conditions. Advanced semiconductor manufacturing processes have greater sensitivity to temperature, and, consequently, monitoring temperature variation has become a more critical component of semiconductor production.

Process and equipment engineers utilize SensArray thermal information in several ways:

- Wafer surface temperature monitoring is an indicator of manufacturing equipment performance. This information helps IC manufacturers ensure equipment health, thus enabling them to increase equipment uptime and reduce tool maintenance costs and cost of ownership.
- Temperature variation between multiple equipment sets is a critical parameter in the qualification of tools, thus enabling faster production ramps.
- Tracking temperature variation data enables faster root cause analysis of process excursions and detects trends that indicate possible future excursions.

"KLA-Tencor's SensArray products enable customers to significantly improve uptime of critical manufacturing equipment and improve process uniformity," stated Dr. Lena Nicolaides, vice president and general manager of the SensArray-VLSI Division of KLA-Tencor's Growth and Emerging Markets (GEM) Group. "Today customers are investing $4 billion or more to start a 32nm fab; implementing tools like KLA-Tencor's wireless temperature monitoring products allow IC manufacturers to improve their return on this investment by enabling a faster production ramp and more effective use of capital."

Released Products:

- **EtchTemp-SE (ET-SE)**

Complementary to the industry-leading EtchTemp product, ET-SE delivers temperature wafer monitoring during silicon etch processes, providing temperature measurements with a higher signal-to-noise ratio than alternative methods. By characterizing thermal conditions that closely represent product wafer conditions, ET-SE assists in matching front-end-of-line etch chambers and qualifying electrostatic chucks.

- **ScannerTemp**

ScannerTemp allows highly accurate temperature monitoring of dry and immersion lithography systems, whose overlay performance is highly sensitive to thermal variation. With a flat, standard-thickness wafer format, it offers a sensor-to-sensor range of 0.03 degrees C in a 20-24 degrees C operating range - enabling temperature monitoring not previously available.

- **WetTemp-LP**

While prior-generation wet clean systems were compatible with SensArray SensorWafers™ thicker than standard product wafers, many new wet clean systems used in IC manufacturing require monitor wafers of standard thickness. The new WetTemp-LP is designed to be compatible with both single wafer and batch wet clean systems that require this standard-thickness wafer form factor. Integrating multiple temperature sensors, the WetTemp-LP provides rich spatial data to allow users to improve productivity and matching of wet clean systems.

KLA-Tencor also introduced **BaseStation 300Z**, a storage solution featuring a smart Front Opening Universal Pod (FOUP). This provides customers a clean and convenient environment for storage, charging and data transfer of the EtchTemp (dielectric etch), EtchTemp-SE (silicon etch), ScannerTemp and WetTemp-LP wafers.

KLA-Tencor's broad portfolio of SensArray products are currently in use by IC manufacturers throughout the world, and the new product suite is immediately available. All KLA-Tencor inspection and metrology tools are supported by KLA-Tencor's global, comprehensive service network. For more information, please visit www.kla-tencor.com.

About KLA-Tencor:

KLA-Tencor Corporation, 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 more than 35 years. Headquartered in Milpitas, Calif., KLA-Tencor has dedicated customer operations and service centers around the world. Additional information may be found at http://www.kla-tencor.com/.

Forward Looking Statements:

Statements in this press release other than historical facts, such as statements regarding the SensArray products' expected performance, trends in the semiconductor industry and

the anticipated challenges associated with them, expected uses of the SensArray products by KLA-Tencor's customers, and the anticipated cost, operational and other benefits realizable by users of the SensArray products, 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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