Lam Research Launches Flex(TM) G Series for High-Aspect-Ratio Dielectric Etch

FREMONT, CA -- (Marketwired) -- 07/13/15 -- Lam Research Corp.(NASDAQ: LRCX), a major global supplier of innovative wafer fabrication equipment and services to the semiconductor industry, today announced it has introduced the Flex™ G Series for high-aspect-ratio (HAR) dielectric etch to enable the continued scaling of DRAM and 3D NAND devices. The HAR capacitor cells and vertical transistor channels within these devices require the formation of distortion-free vertical profiles from the top to the bottom of these tall, narrow features. Built upon Lam's Flex product family, the market leader in dielectric etch for memory, the new system meets these challenges by combining high ion energy, advanced process uniformity tuning, and proprietary RF pulsing. Together, these deliver overall best-in-class on-wafer performance, as well as the productivity needed to reduce manufacturing costs.

"Advanced memory device designs involve increasingly high-aspect-ratio dielectric etch applications," saidVahid Vahedi, group vice president, Etch Product Group. "These require etching through very deep structures with exceptional process control. Using innovative technology that enables tuning critical process parameters like etch profile and mask selectivity, our new Flex G Series is designed to help our customers address their most difficult challenges."

As aspect ratios increase, dielectric etch steps become more challenging. For DRAM, scaling below 20 nm makes the dimensions of the capacitor (cell) features even more extreme and therefore harder to etch. These applications require stringent critical dimension (CD) control throughout the depth of the feature and tight across-wafer uniformity for both etch depth and profile. Similarly for 3D NAND, critical HAR processes include the vertical transistor channel and slit. Today, these can involve etching through 30 or more stacked pairs of films, with aspect ratios in excess of 30:1. This is growing to 60 or more pairs for next-generation devices, further increasing the aspect ratio of the structure being etched. Due to challenging dimensions, HAR structures are especially vulnerable to bowing, distortions such as tilting or twisting, and premature etch-stop. To address these issues, high selectivity and controlled material removal are required.

The Flex G Series is the newest addition to Lam's Flex product line, which leads the dielectric etch market for memory applications. To address next-generation DRAM and 3D NAND scaling challenges, the system uses high ion energy to enable complete removal of material down to the bottom of HAR features. Advanced plasma confinement and RF pulsing capabilities result in better than 2x improved mask selectivity and bowing-free, vertical profiles with minimal distortion. In addition, excellent CD uniformity control is enabled by advanced multi-zone gas distribution. Leveraging the proven manufacturing performance of the Flex product family, the system provides best-in-class productivity with fast etch rates.

About Lam Research
Lam Research Corp.(NASDAQ: LRCX) is a trusted global supplier of innovative wafer fabrication equipment and services to the semiconductor industry. Lam's broad portfolio of market-leading deposition, etch, strip, and wafer cleaning solutions helps customers achieve success on the wafer by enabling device features that are 1,000 times smaller than a grain of sand, resulting in smaller, faster, and more power-efficient chips. Through collaboration, continuous innovation, and delivering on commitments, Lam is transforming atomic-scale engineering and enabling its customers to shape the future of technology. Based in Fremont, Calif., Lam Research is a NASDAQ-100 Index® and S&P 500® company whose common stock trades on the NASDAQ® Global Select Market™ under the symbol LRCX. For more information, please visithttp://www.lamresearch.com. (LRCX-P)

Caution Regarding Forward-Looking Statements
Statements made in this press release that are not of historical fact are forward-looking statements and are subject to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements relate to, but are not limited to, statements concerning the process and result requirements of HAR vertical transistor channels and capacitor cells, the ability of Lam tools to satisfy process requirements and deliver customer productivity demands, etching requirements for 3D NAND and critical HAR processes, the extent to which Lam's products enable results on the customer wafer, such as CD uniformity control, and that future productivity and etch rate capabilities of Lam equipment. Some important factors that may affect these forward-looking statements include future technology developments, customer process schemes and requirements arising from consumer product demands. Such forward-looking statements are based on current beliefs and expectations and are subject to risks, uncertainties and changes in condition, significance, value and effect, including those discussed in Lam's annual report on Form 10-K under the heading "Risk Factors" as well as in other documents filed by Lam with the Securities and Exchange Commission. Such risks, uncertainties and changes in condition, significance, value and effect could cause actual results to differ materially from those expressed herein and in ways not readily foreseeable. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the dates made and of information reasonably known to Lam as of the dates the statements were made. We undertake no obligation to release the results of any revisions to these forward-looking statements which may be made to reflect events or circumstances which occur after the date hereof or to reflect the occurrence or effect of anticipated or unanticipated events.

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