

NOVELLUS SYSTEMS INTRODUCES VECTOR EXTREME TEOS xT - THE FASTEST PECVD TOOL IN THE SEMICONDUCTOR INDUSTRY

San Jose, California - January 25, 2011 - Novellus Systems (NASDAQ: NVLS) announced today that it has made multiple shipments of its new VECTOR® Extreme™ TEOS xT™ system to leading memory manufacturers around the world. The VECTOR Extreme TEOS xT is based on the highly successful VECTOR Extreme platform. It is capable of production throughputs in excess of 300 wafers per hour, making it the fastest plasma enhanced chemical vapor deposition (PECVD) system in the industry. In addition to its high throughput, the new VECTOR Extreme TEOS xT achieves best-in-class nanoscale defectivity levels, with fewer than 10 particle adds per wafer for defect sizes greater than 70nm. This level of particle performance exceeds the requirements for 24nm memory devices and contributes to improving device yields. Today, over 50 percent of the total PECVD dielectric film thickness used to manufacture DRAM and NAND Flash memory chips is based on TEOS oxide applications.

The VECTOR Extreme TEOS xT system achieves its benchmark performance through a combination of several new and innovative features. Industry leading throughput is achieved using Dynamic Plasma Control (DPC™) hardware for higher deposition rates, RapidClean™ for faster chamber cleans, and a new xT™ wafer handler with enhanced control system architecture for precise wafer placement and reduced non-value-added time. The breakthrough in defectivity performance is achieved using High Conversion Efficiency (HCE™) vaporizer technology. Figure 1 shows controlled, repeatable performance of less than 10 defects per wafer throughout a 17,500 wafer marathon.

In order to reduce the qualification time for TEOS applications, the new OHD™ profile package was developed to tune film thickness profiles to match chemical mechanical planarization requirements. Figure 2 shows edge thick, edge thin and flat film profiles that can be achieved using OHD technology. Compared to the competition, the advanced features on the VECTOR Extreme TEOS xT enable a 29 percent reduction in chemical costs and a 25 percent reduction in energy consumption.

"Increasing demand for price-sensitive consumer products continues to place downward price pressure on memory chips. Our customers are looking for state-of-the-art processing equipment that enables them to reduce their capital investment, increase their yields, and provide them with the lowest operating costs," said Kevin Jennings, senior vice president of Novellus' PECVD business unit. "The VECTOR Extreme TEOS xT system was designed from the ground-up to meet these demands, and is being rapidly adopted by top memory manufacturers around the world."

For more information about the new VECTOR Extreme TEOS xT system, please visit: www.novellustechnews.com

About Novellus' PECVD Technology:

The multi-station sequential processing (MSSP) architecture of Novellus' VECTOR platform allows for independent temperature and flow control to its deposition stations, a critical requirement to meet the integration needs of sub-3xnm technology nodes. More than 1,000 VECTOR systems have been installed in logic, memory, and foundry fabs around the world.

About Novellus:

Novellus Systems, Inc. (Nasdaq: NVLS) is a leading provider of advanced process equipment for the global semiconductor industry. The company's products deliver value to customers by providing innovative technology backed by trusted productivity. An S&P 500 company, Novellus is headquartered in San Jose, Calif. with subsidiary offices across the globe. For more information, please visit www.novellus.com

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