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NEWS RELEASE

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Fab Engineers Look to Validate, Analyze Real-Time Wafer Contamination in Process Equipment With Slated '09 Release of New WaferSense® Airborne Particle Sensor (APS) From CyberOptics Semiconductor, Inc.

Particle Sensor First Demonstrated at SEMICON Korea, Japan; Improves Die Yield, Compresses Final Wafer Inspection

BEAVERTON, Ore., Feb. 12, 2009 – The R&D group at a maker of metrology devices for wafer processing equipment, CyberOptics Semiconductor, Inc., has developed a new wireless sensor that allows fab engineers to monitor airborne particles in process equipment to validate and analyze wafer contamination in real-time to reduce wafer scrap and improve die yield with a wafer-like device – the WaferSense® Airborne Particle Sensor (APS), according to Dennis J. Bonciolini, the company's CTO.

CyberOptics Semiconductor has demonstrated early iterations of the APS at SEMICON Korea and Japan and plans to "make the device available in Q2 or Q3 of this year," Bonciolini said.

Bonciolini said particle conditions in process equipment and automation material handling systems (AMHS) change and deteriorate over time as components and filters wear out, process films build up and wafer alignments drift. Fabs, he said, that are unable to isolate and evaluate the source of particles in a tool before final wafer-inspection scans via capital equipment experience reduced yield due to wafer contamination, as well as prolonged equipment downtime for qualification, troubleshooting and maintenance.

CyberOptics Semiconductor, a subsidiary of CyberOptics Corp. (Nasdaq:CYBE), developed the APS to allow engineers to efficiently identify particles and their exact location in a process as mechanical and gas events are cycled, including in and around tools, transfer areas, front-ends, track tools and chambers, according to Bonciolini.

The APS is designed to help fabs "reduce overall process costs and significantly compress" the wafer-inspection process whereby particle wafers are processed and queued for final-inspection scans at process stations, Bonciolini said. Engineers often return to tools following scans to identify and quantify any possible problem areas in a process before repeating final inspection.

Bonciolini added that the automated, vacuum-compatible device won't require engineers to open chambers or expose process areas and initial testing has shown the sensor to have some sensitivity to detect 0.1 um particles. The self-contained device will use a fan to pull ambient air through a channel as a laser illuminates the air channel and particles, which scatter light picked up by the sensor's photo-diode detectors.

Fab engineers will be able to validate and analyze the particle conditions in process equipment with the device's companion software, ParticleView™ and ParticleReview™. ParticleView's GUI will display

incremental and cumulative particle counts and allow users to mark log files to indicate where, exactly, the device is in a process for real-time wafer partitioning. ParticleReview's GUI will display log-file data obtained by the APS to allow users to conduct machine-to-machine trend analysis of particle conditions to establish process controls and support training.

"In the past, it could take engineers hours to determine where a particle event is occurring or if a particle-related PM or qualification was done correctly to release tools for manufacturing," Bonciolini said. "We believe this airborne particle sensor represents one of the most significant changes in particle-detection methodology in many years and will enable engineers to really monitor and control contaminations in their tools and protect die yield – with real-time views of particle conditions to address areas of concern instead of the whole tool."

The WaferSense APS' preliminary specifications and features will include form factors of 200 and 300 mm, with 450 mm versions to become available by special order. The APS, like other WaferSense devices, will use a wireless Bluetooth link and be compatible with Windows 2000, XP and Vista.

The WaferSense APS package will include the particle-sensing wafer, USB-compatible link, ParticleView and ParticleReview software, charging clean box and suitcase.

The WaferSense family of products includes the Auto Vibration System (AVS), Auto Leveling System (ALS2 Vertical), Auto Teaching System (ATS), Auto Gapping System (AGS) and soon the Airborne Particle Sensor (APS). Each device follows the processing life of a wafer and reports real-time metrology data.

About CyberOptics Semiconductor, Inc.

CyberOptics Semiconductor develops automated products that seamlessly measure critical parameters in semiconductor fabrication processes and equipment. The company's pioneering WaferSense® line includes wireless metrology devices for vibration, leveling, gapping and teaching semiconductor process equipment. The company is the largest producer of reflective wafer-mapping sensors and a leading provider of frame grabber machine vision boards under its HAMA Sensors™ and Imagenation™ brands. CyberOptics Semiconductor is a subsidiary of CyberOptics Corp. (Nasdaq:CYBE), one of the world's leading providers of process yield and throughput improvement solutions for electronic assembly and semiconductor capital equipment companies. For information, visit http://www.cyberopticssemi.com/, e-mail CSsales@cyberoptics.com or call 800-366-9131.

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