

NEWS RELEASE

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Announcing 450 mm WaferSense® Auto Leveling System (ALS) 2 Vertical

The 450 mm ALS2 Vertical reduces particle contamination, increases yield. It is available by special order.

The R&D group at CyberOptics Semiconductor has developed a new 450 mm leveling sensor in conjunction with industry standards to help fabs develop and qualify next-generation processing equipment. The ALS2 Vertical does this via real-time measurements of vertical and horizontal wafer supports such as ion implants and wet-station robots.

The WaferSense® ALS2 Vertical travels as a wafer would through process equipment. It is used by engineers to optimize equipment setup and reduce maintenance time. The device and companion LevelReview™ software help engineers characterize equipment inclination and conduct statistical analysis via log-file data. With LevelReview™ users can also establish uniform metrology standards for process equipment and preventative maintenance (PM) schedules.

The ALS2 Vertical is an alternative to the machinist levels, bubble levels and wired devices often used by engineers to calibrate equipment. “Eyeballing just isn’t effective and without good inclination data, engineers will start seeing particulate contamination and lost yield due to misaligned equipment,” said Craig C. Ramsey, Ph.D., general manager and CTO of CyberOptics Semiconductor.

CyberOptics worked with representatives of the International Sematech Manufacturing Initiative (ISMI) to develop the 450 mm ALS2 Vertical. The sensor is designed for inclusion in ISMI’s 450 mm Interoperability Test Bed where industry researchers have begun studying 450 mm wafers and handling equipment. ISMI’s 450 mm roadmap calls for three International SEMATECH manufacturers to build 450 mm pilot lines capable of 22 nm processing by approx. 2012. The three manufacturers are Intel Corp., Samsung Electronics and Taiwan Semiconductor Manufacturing Co. (TSMC). 450 mm volume production could begin as early as 2014 or 2015, according to Semiconductor International.

The WaferSense ALS2 Vertical’s key specifications and features include vertical accuracy of +/-0.05 degrees and vertical range of +/-50 degrees, horizontal accuracy of +/-0.03 degrees within +/-7 degrees, horizontal resolution of +/-0.002 degrees within +/-14 degrees, operating temperature of 20 to 70 degrees Celsius, wireless Bluetooth link, four hour run-time per battery charge and use with Windows 2000, XP and Vista. The ALS2 Vertical is also available in 300 mm and 200 mm form factors.

The WaferSense ALS2 Vertical package includes the leveling wafer, USB-compatible link, LevelView and LevelReview graphical software CD, charging case and suitcase.

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