

NEWS RELEASE

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For Immediate Release

CYBEROPTICS SEMICONDUCTOR ANNOUNCES UPGRADES TO EX SERIES OF WAFER MAPPING SENSORS

Improved sensors detect wafers regardless of diameter, edge geometry, thickness or coating.

SAN FRANCISCO SEMICON WEST 2003, Booth # 6076 and BEAVERTON, Ore, July 14, 2003 -- CyberOptics Semiconductor, Inc. today announced the availability of its newly enhanced EX Series of high-performance wafer mapping sensors featuring increased detection and working angle ranges.

The latest revisions to the EX Series (Model Nos. EX-43Q, EX-73Q, EX-83Q, and EX-93Q) that utilize reflective laser technology, optimize the sensors' optical plane geometry to virtually eliminate any potential for stray reflections from FOUPs, cassettes, or other wafers. As a result, these sensors can quickly and reliably detect all types of wafers regardless of diameter, edge geometry, thickness or coating. The EX Series employ an extremely thin (0.05mm) laser stripe combined with multiple apertures and spatial filtering. The sensors are insensitive to interference from the mapping environment because their beam geometry and built-in ambient light filter minimize stray reflections and fluorescent lighting influences. The result is reduced noise, as well as the consistent measurement and detection at one gain setting of the apparent thickness of a wide range of wafers, including specular or diffuse wafers.

EX sensors have no moving parts, thus eliminating any particulate contamination. Because they employ reflective technology, the sensors are non-intrusive, thereby mitigating the chance of wafer damage during mapping. All these features combine to improve overall mapping accuracy and enable EX Series of sensors to excel in the detection of transparent, opaque and mirror-surfaced wafers as well as those that are cross-slotted or thin (<300 um).

“Our continued improvements to the EX Series have resulted in the highest performance wafer mapper sensors we’ve ever developed,” said Steve Quist, CyberOptics Semiconductor General Manager. “By using our sensors, semiconductor manufacturers migrating to larger and more complex wafer geometries can be assured not only of the most robust components on the market today, but also of a savings in time and money through greatly reduced detection errors.”

The newly upgraded EX Series Class 1 sensors, like their predecessors, are an easy to use “off-the-shelf” solution that requires no amplification or signal conditioning, and can be mounted on wafer handling devices. They come in four (4) stand-off distances – 1.5-inch, 2.2-inch, 3.0-inch and 4.5-inch – with wider operating ranges from 1.4- to 4.8 inches. The sensors have a maximum response time of 400 μ s, a minimum pulse width of 5 msec, and a current consumption of 130mA. The EX Series sensors conform to IEC 60825-1 (2001-08) laser safety and to the laser safety requirements of SEMI S2-0200.

EX Wafer Mapping Sensor Key Features

- Excels at detecting presence, absence, cross-slot of all wafers including dark or coated wafers at a single gain setting
- Excels at detecting thin wafers (< 300 μ m)
- Insensitive to reflective interferences from the mapping environment as a result of built-in ambient light filter and optimized optical plane geometry
- For use with all SEMI™ standard wafer regardless of size or edge geometries
- Non-intrusive, robot mounting protects wafers from inadvertent crashes
- No moving parts minimizes ongoing maintenance burden as well as eliminates particulate contamination issues
- Easy to use, “off-the-shelf” direct interface requires no amplification of signal conditioning
- Available in four (4) stand off distances
 - EX-43Q (1.5-inch)
 - EX-73Q (2.2-inch)
 - EX-83Q (3.0-inch)
 - EX-93Q (4.5-inch)

Pricing & Availability

The EX family of wafer mapping sensors is available. Attractive volume discounts are available.

Support

CyberOptics Semiconductor’s dedicated team of Technical Support Engineers are available to assist with wafer mapping issues by email at CSsupport@cyberoptics.com or by phone at (800) 366-9131 from 8 AM to 5 PM PDT Monday [through Friday.](#)

About CyberOptics Semiconductor, Inc.

CyberOptics Semiconductor, Inc. combines laser- and vision-based technologies to deliver compelling solutions to meet the needs of OEM customers in the semiconductor market. CyberOptics Semiconductor wafer mapping sensors and frame grabbers are both leading product lines within the semiconductor and industrial automation markets.

Headquartered in Beaverton, OR with sales and engineering resources in the Bay Area, CyberOptics Semiconductor is positioned geographically in both Silicon Valley and Silicon Forest, with easy reach to the rest of the semiconductor marketplace. Visit the website at www.CyberopticsSemi.com.

CyberOptics Semiconductor is part of CyberOptics Corporation, Minneapolis, MN (Nasdaq NMS: CYBE), CyberOptics Corporation, a recognized worldwide leader in optical technology, designs and manufactures yield and throughput enhancement tools for the SMT electronics assembly equipment and semiconductor fabrication markets. Visit the web site at: www.cyberoptics.com.

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