

## NEWS RELEASE

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**For Immediate Release**

### **CyberOptics Semiconductor Announces the Release of the EX Series of Wafer Mapping Sensors**

Sensors excel at detecting dark or coated wafers as thin as <300 um, regardless of edge geometry.

**Portland, Ore., May 6, 2002** – CyberOptics Semiconductor, Inc. today announced the production release of the EX series of high performance wafer mapping sensors. CyberOptics Semiconductor's EX sensors (EX-43, EX-73, EX-83, and EX-93) are ideally suited for quick and reliable detection of semiconductor wafers and slotting errors in cassettes or FOUPs. Available in four stand-off distances – 1.5", 2.2", 3.0" and 4.5" - the EX easily mounts on robots and is adaptable to a wide array of mapping applications.

EX wafer mapping sensors employ two (2) 850 nm emitters that are close to the peak response of phototransistors while maintaining Class 1 laser status. Combined with improved electrical gain, it enables the EX sensors to excel at detecting even the most difficult dark or coated wafers.

Improved the detector geometries provide constant response with angle and higher optical gain, allowing the EX wafer mapping sensors to scan either off- or on-axis, helping to make EX sensors impervious to stray reflections.

EX wafer mapping sensors feature a thin laser stripe combined with multiple apertures and spatial filtering that reduce noise, and a rotary 16-position sensitivity switch that

assures repeatable, deterministic selection of sensor gain levels. In addition, an ambient light filter is now a standard feature on all EX models. These improvements combine to improve overall mapping accuracy as well as enabling the EX to excel in the detection of ultra thin wafers (<300 um).

“The EX series is the highest performing wafer mapping sensor we’ve ever developed,” said George Fabel, CyberOptics Semiconductor President/CEO. “The EX sensors ability to robustly detect bright, dark, and ultra thin wafers, and capacity to be used with any wafer size or edge geometry make them a compelling solution for OEMs, many of whom have already designed the EX into multiple process and metrology tools at several of the world’s largest equipment makers.”

The operating range of the EX sensors allows them to be used at stand-off distances from 1.3" to 5.5". As with previous CyberOptics Semiconductor wafer mapping products, the EX sensors have no moving parts and can be mounted on wafer handling devices. Because they employ reflective technology, the sensors are a non-intrusive detection solution that greatly reduces the possibility of wafer damage during mapping. Further, the absence of moving parts eliminates any particulate contamination concerns. The EX is an easy to use “off-the-shelf” solution that requires no amplification or signal conditioning.

“As the industry moves to 300 mm wafers and FOUP transport methodology, as well as nitride, copper, and other wafer coating technologies, EX wafer mapping sensors are uniquely positioned to meet the needs of manufacturers of next generation semiconductors,” said George Fabel.

### **EX Wafer Mapping Sensor Key Features**

- Excels at detecting presence, absence and cross-slot of all wafers including dark or coated wafers
- Excels at detecting ultra thin wafers (< 300 um)
- Insensitive to reflective interferences from the mapping environment as a result of built-in ambient light filter
- Simple, repeatable gain adjustments for optimum wafer detection with 16-position rotary sensitivity switch
- For use with all SEMI<sup>®</sup> 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 or signal conditioning
- Available in four (4) stand off distances
  - EX-43 (1.5")
  - EX-73 (2.2")
  - EX-83 (3.0")
  - EX-93 (4.5")

**Pricing & Availability**

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

**Support**

CyberOptics Semiconductor, Inc. has dedicated a team of Technical Support Engineers on staff that are available to assist with any wafer mapping issues. Technical Support can be contacted either by email at [CSsupport@cyberoptics.com](mailto:CSsupport@cyberoptics.com) or by phone at (800) 366-9131 or (503) 495-2200 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.

With two locations, one in Portland, OR and a second in Redwood City, CA, CyberOptics Semiconductor is positioned geographically in both Silicon Valley and Silicon Forest, within easy reach to the rest of the semiconductor marketplace. For more information, please visit the website at [www.CyberopticsSemi.com](http://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](http://www.cyberoptics.com).

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