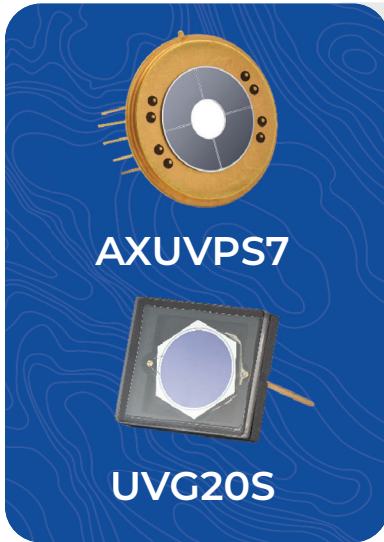


# Driving Innovation in Semiconductor Lithography and Metrology



## KEY FEATURES

- Industry-leading sensitivity and stability from 1 nm to 400 nm
- High reliability under extreme UV exposure and high-power laser environments
- Low degradation and excellent signal-to-noise performance

## APPLICATIONS

- EUV lithography & power monitoring (13.5 nm)
- CD SEM
- Soft X-ray beamline metrology (1–80 nm)
- Synchrotron beamline instrumentation

Opto Diode Corporation designs and manufactures advanced SXUV and UVG series photodiodes engineered for EUV and DUV lithography as well as critical metrology and inspection tools used in next-generation semiconductor manufacturing. With over three decades of expertise and U.S.-based wafer fabrication, we deliver sensors that meet the highest standards of stability, sensitivity, and traceability, ensuring consistent performance in demanding environments such as wafer steppers, mask inspection systems, and synchrotron beamlines.

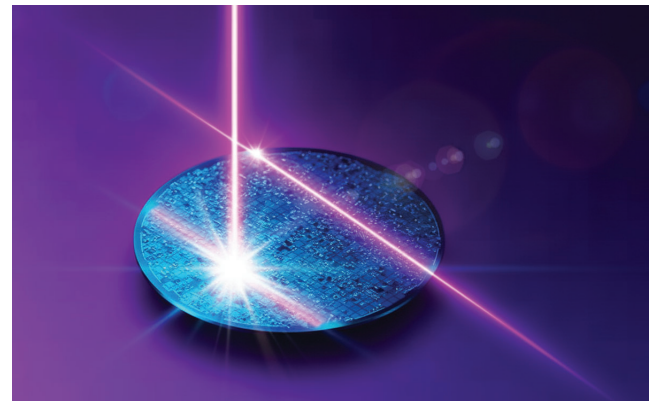
Our vertically integrated processes allow precise customization of detector geometry, spectral responsivity, and packaging, enabling integration into a wide range of platforms—from compact in-situ monitoring modules to large-area, high-flux detectors. Thin-film coatings can be optimized to enhance responsivity at key lithography wavelengths like 13.5 nm, 193 nm, and 248 nm, while low-capacitance designs ensure high-speed response and low-noise operation. These detectors are proven to withstand high photon flux levels from excimer lasers, synchrotrons, and advanced light sources without performance degradation.

To meet the exacting requirements of semiconductor fabs, aerospace systems, and research facilities, Opto Diode offers rigorous testing such as: thermal cycling, high-temperature testing (up to 125°C), and long-term stability validation. Mechanical packages are engineered for vacuum compatibility, low outgassing, and mechanical robustness, making them ideal for critical environments. By leveraging decades of photodiode innovation, Opto Diode provides fully application-ready solutions and higher level integration, that simplify integration, reduce system complexity, and ensure measurement accuracy in lithography, metrology, and advanced R&D instrumentation.

## Featured Products

### SXUV & UVG Series

Model Number	Description	Active Area (mm <sup>2</sup> )	Detection Range (nm)
UVG100	UV Enhanced Circular Photodetector	100	190 - 400
SXUV100	Large EUV Photodetector	100	1 - 190
UVG5S	High Speed EUV Photodetector	5	1 - 190
SXUV20C	EUV Low Noise Photodetector	19.7	1 - 190
UVG20S	UV Enhanced Circular Photodetector	24	190 - 400



### Why Customers Choose Opto Diode

Customers trust Opto Diode for custom-engineered photodiode solutions built to exceed the strict requirements of semiconductor lithography and metrology systems. With over 40 years of photonics expertise and fully U.S.-based wafer fabrication, we provide ITAR-compliant, traceable devices tailored for cleanroom and vacuum integration. Our detectors can be optimized with active areas up to wavelength-specific thin-film coatings for 13.5 nm, 193 nm, and 248 nm, and sub-nanosecond rise times for fast optical signal detection. By leveraging in-house packaging, prototyping, and fast turnaround manufacturing, we help customers reduce lead times, improve accuracy, and accelerate innovation in mission-critical semiconductor, aerospace, and research platforms.