

# Customizable DUV & EUV Photodiodes (AXUV & SXUV Series)



## KEY FEATURES

- Custom active area sizes and geometries
- Spectral coverage from EUV to DUV (1 nm to 190 nm)
- Integrated band-pass or long-pass thin-film filters for precise wavelength targeting.
- Standard sockets available for purchase

## APPLICATIONS

- EUV lithography & power monitoring (13.5 nm)
- CD SEM
- Soft X-ray beamline metrology (1–80 nm)
- Semiconductor and spaceborne UV detection

Opto Diode Corporation provides fully customizable AXUV and SXUV photodiodes for deep ultra-violet (DUV) and extreme ultraviolet (EUV) detection, supporting advanced semiconductor lithography, soft X-ray metrology, and scientific research instrumentation. With U.S.-based wafer fabrication and ITAR-compliant production, our detectors offer traceable, high-reliability performance tailored to the needs of precision optical systems.

We work closely with engineers to configure detectors for exact system requirements. Customization options include active area size and geometry from compact detection areas to large 10 mm × 10 mm active regions, as well as spectral responsivity tuning via precision thin-film filters. Electrical characteristics such as capacitance, rise time, and fall time can be optimized for fast response across wavelengths from 13.5 nm EUV lithography to 1–190 nm. For systems requiring signal conditioning at the sensor level, first-stage amplification can be integrated as a custom option, matched to the application's dynamic range and noise requirements.

With over four decades of photodiode design expertise, Opto Diode delivers application-ready solutions in sealed, low-outgassing mechanical packages suitable for vacuum and cleanroom integration. By reducing reliance on external optics and filtering components, our detectors simplify system integration, improve measurement accuracy, and accelerate development for semiconductor, scientific, and aerospace platforms.

## Featured Products

### SXUV Series- EUV Optimized Detectors

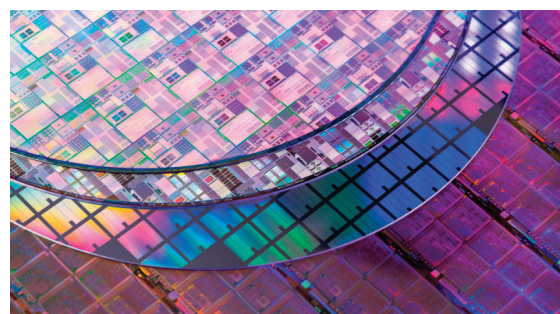
Model Number	Responsivity	Detection Range	Description
SXUV100TF135	0.09 A/W @ 13.5nm	12 nm to 18 nm	Photodiode with integrated EUV Filter
SXUV20HS1	See SXUV Responsivity Graph	1nm-190nm	High Speed EUV Photodetector (1nm-190nm)

### AXUV Detectors - UV to EUV & Electron Detectors

Model Number	Responsivity	Detection Range	Description
AXUV100TF400	0.15 A/W @ 40nm	18nm to 80nm	100mm <sup>2</sup> Photodiode with Integrated Filter
AXUVPS7	0.08A/W @ 190nm	0.0124nm to 190nm	Quadrant Electron Back Scatter Detector

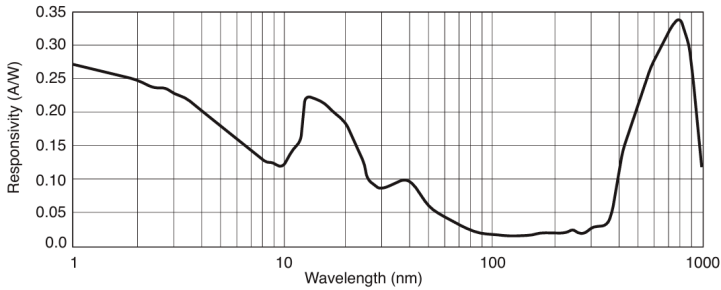
### Custom EUV and DUV Detectors

Opto Diode's custom EUV and DUV detectors combine back-illuminated silicon photodiodes with integrated thin film interference filters optimized for narrowband detection ( e.g., 13.5nm EUV, 1-80nm soft X-ray). These filters deliver high in band transmission with OD4-OD6 out of band blocking and engineered for specific angles, substrates, and vacuum conditions. Available as monolithic detectors, filter assemblies, or standalone components, they enable precise, high reliability measurements in lithography, metrology, and

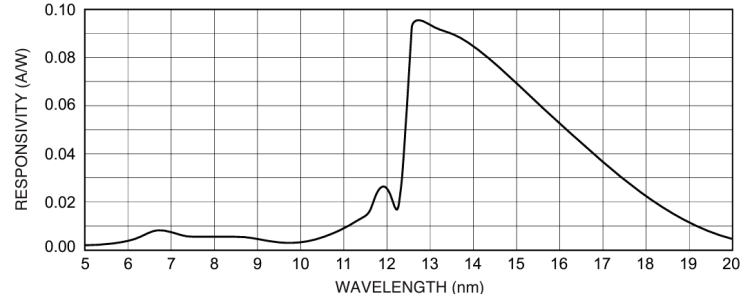


To explore how Opto Diode can support your DUV and EUV detection needs with fully customizable photodiodes, visit [www.optodiode.com](http://www.optodiode.com).

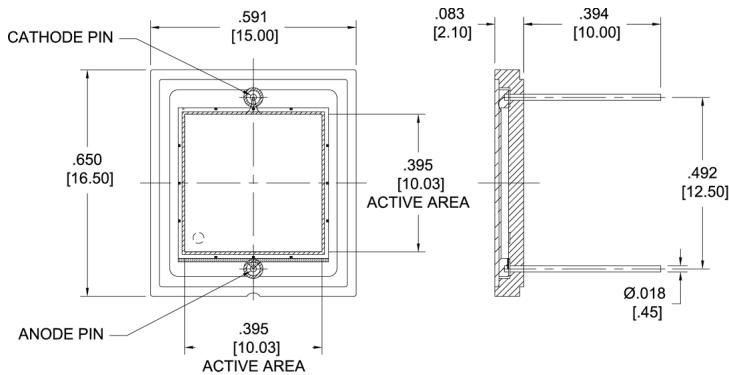
### Typical Responsivity (SXUV Series)



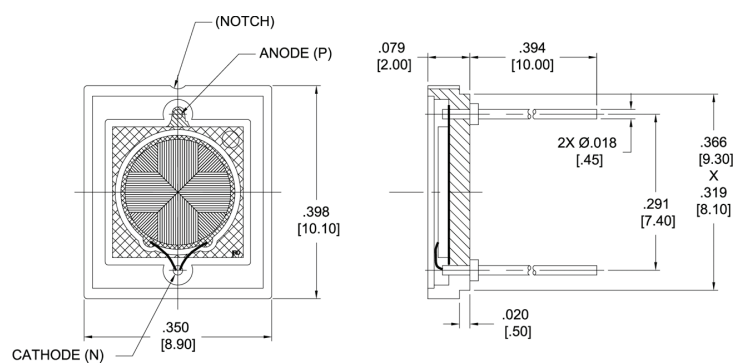
### Typical Responsivity (SXUV100TF135)



Engineered with durability and performance in mind, the SXUV detectors are designed to withstand rigorous use in laboratory and industrial environments, ensuring long-term reliability. Whether you are working on cutting-edge semiconductor fabrication, advanced materials research, or critical quality assurance, the SXUV family of detectors is your go-to solution for achieving superior performance and accuracy in extreme UV detection.

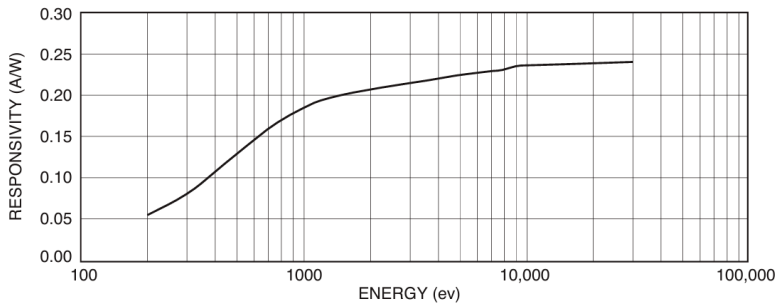


SXUV100TF135

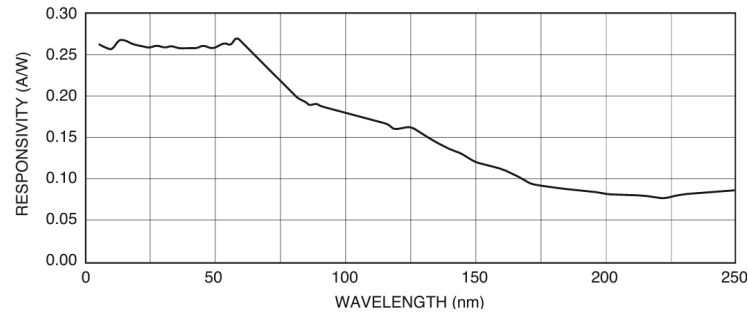


SXUV20HS1

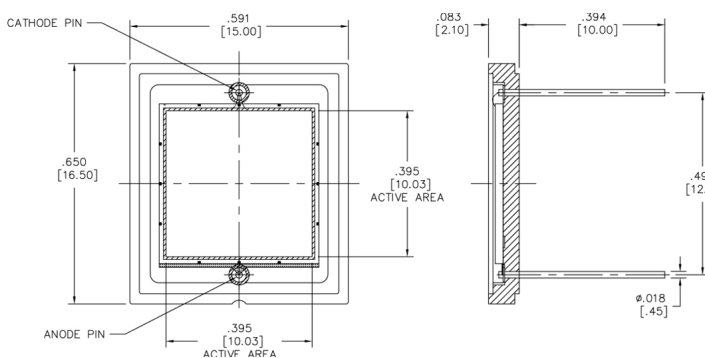
### Typical Response (AXUV Series)



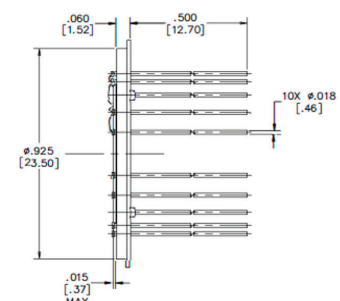
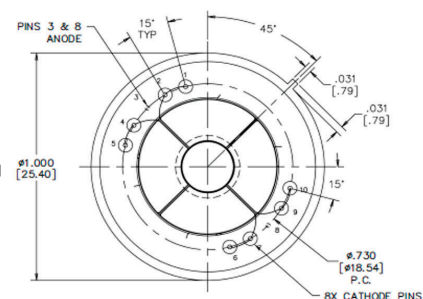
### Typical EUV-UV Response



The AXUV series photodiodes feature high quantum efficiency and stable responsivity across the soft X-ray spectrum (1 nm to ~190nm), making them essential for applications requiring absolute radiometric accuracy in scientific instrumentation, advanced semiconductor process monitoring, soft X-ray imaging, and precision industrial metrology. Select AXUV models are also configured as backscatter detectors, enabling detection of reflected or secondary emission X-rays in beamline diagnostics and surface analysis systems.



AXUV100TF030



AXUVPS7