High-sensitivity silicon photodetector module

Overview

These silicon detectors are available with 3 levels of flexible electronics. It is an easy-to-use all-in-one solution. Thorlabs' Free-Space Silicon Avalanche Photodetectors (APD) are designed to offer increased sensitivity and lower noise compared to standard PIN detectors, making them ideal for applications with low optical power levels., M. The 710 Series are high sensitivity, low noise photodetector-amplifier modules that offer the flexibility of incorporating a variety of silicon or InGaAs, PIN or APD photodetectors. Data Sheets (PDF Format) are. Marktech Optoelectronics offers cutting-edge silicon photodetectors that excel in precise detection of light ranging in wavelength from 250nm to 1100nm. This UV to visible to near infrared (NIR) detection ability makes our silicon photodiodes (SiPDs) a perfect fit for a wide range of applications. Highly sensitive silicon-based nano-structure photodetectors have attracted tremendous attention in night vision imaging. SiPMs with large detection area have recently become commercially.

Article Content

Hot

Silicon Photodetectors

Silicon Detector Characteristics High Sensitivity Silicon photodetectors offer exceptional sensitivity, allowing them to detect even the faintest traces of light.

Jan 16, 2026 Hot

High sensitivity of room-temperature terahertz photodetector based on ...

Here, we report a high sensitivity of room temperature THz photodetector utilizing the electromagnetic induced well mechanism with an SOI-based structure for easy integration.

Jan 25, 2026 Hot

Photodetectors integrating waveguides and

However, it is still a challenge to realize high-performance photodetectors by only integrating substrates and semiconductor materials

Aug 12, 2025 Hot

High-Sensitivity Photodetectors Based on Silver Nanowires/Silicon ...

Light loss is one of the main factors affecting the quantum efficiency of photodetectors. Several approaches have been proposed to mitigate light loss and improve the quantum efficiency of

Aug 11, 2025 Hot

Charting the Path Toward 1.6T and 3.2T Optical Module

A pluggable optical transceiver module architecture consists of several critical components: a laser light source capable of high-speed modulation, a modulator

Nov 23, 2025 Hot

Thorlabs · Free-Space Si Avalanche Photodetectors

Thorlabs'' Free-Space Silicon Avalanche Photodetectors (APD) are designed to offer increased sensitivity and lower noise compared to standard PIN detectors, making them ideal for applications

Jun 27, 2026 Hot

High-Sensitivity Photodetectors Based on Silver Nanowires/Silicon ...

Here, we demonstrate high-sensitivity photodetectors based on highly antireflective silicon nanopillar arrays (Si-NPAs) as a light trapping layer combined with a thin film of silver nanowires (Ag

Nov 27, 2025 Hot

High-sensitivity low-noise photodetector using a large-area silicon ...

This report shows the design and the performance of a large area Silicon Photomultiplier (SiPM) module developed detection of fluorescent light emitted from a 10 cm scale volume.

Sep 19, 2025 Hot

High-speed, zero-biased silicon-germanium photodetector

We report high-speed performance for a photodetector operating at zero bias—with zero dark current and zero DC electrical power dissipation.

Jan 10, 2026 Hot

Semimetal-Controlled Silicon-Based Ultra-Broadband Photodetector

With its high responsivity and ultrafast response time, a single-pixel imaging module and a low-concentration gas sensing module are further developed. The imaging module can capture clear

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A 408 Gbit/s PAM-8 sidewall-doped germanium-silicon photodetector

Request PDF | A 408 Gbit/s PAM-8 sidewall-doped germanium-silicon photodetector | Based on the 90 nm silicon photonics commercial foundry, sidewall-doped germanium–silicon

Dec 08, 2025 Hot

High-sensitivity low-noise photodetector using large-area silicon ...

High-sensitivity lo w-noise photodetector using large-area silicon photomultiplier T akahik o Masuda ∗1, Ayami Hiramoto ∗1, Daniel G. Ang 2, Cole Meisenhelder 2,

Jan 18, 2026 Hot

Silicon Photodetectors

Silicon photodetectors offer exceptional sensitivity, allowing them to detect even the faintest traces of light. This sensitivity is vital for various applications that require

Feb 27, 2026 Hot

High-sensitivity low-noise photodetector using a large-area silicon ...

The application of silicon photomultiplier (SiPM) technology for weak-light detection at a single photon level has expanded thanks to its better photon detection efficiency in comparison to a

Aug 23, 2025 Hot

Si Detectors and Arrays

The FCI-H125G-10 hybrid incorporates a high sensitivity silicon photodetector with a sensing area of 250 µm in diameter. It also includes a high gain transimpedance

Sep 17, 2025 Hot

Silicon Photodiode

The Silicon PIN detector series combines high sensitivity, ultra-low dark current, and fast response with multi-GHz bandwidth. They are offered as a stand-alone,

Jan 29, 2026 Hot

High-performance Ge photodetectors on silicon photonics platform for ...

Finally, the current research frontiers and hotspots of high-performance Ge PDs are summarized, and the future development trends are discussed. It is hoped that this review will be

Jun 01, 2026 Hot

High-Speed Photodetectors | Coherent

Coherent offers 100+ high-speed photodetector model options with speeds from 18 GHz to 100 GHz designed for O-, C-, or dual-band operation and advantages

Jul 05, 2025 Hot

A high-performance broadband double-junction

Herein, an NN + /MS double junction enhanced photodetector based on silicon nanowire (SiNW) arrays wrapped by silver nanoparticles has been

Nov 12, 2025 Hot

High-sensitivity low-noise photodetector using large-area silicon ...

This work presents a SiPM-embedded compact large-area photon detection module. Various techniques are adopted to overcome the disadvantages of SiPMs so that it can be generally

May 13, 2026 Hot

Ultrahigh-speed silicon-based modulators/photodetectors for optical ...

We present our recent progress on the silicon photonic devices for next-generation optical interconnects. The 300 Gbit/s silicon microring modulator, 200 Gbit/s Ge EAM and 408 Gbit/s Ge-Si photodetector

Sep 04, 2025 Hot

High-sensitivity and broadband PEDOT:PSS–silicon heterojunction ...

Here we report fabrication of a broadband and high sensitive detector in both photo-current and photo-voltage mode.

Jun 30, 2025 Hot

High sensitivity of room-temperature terahertz photodetector based on ...

SUMMARY Silicon (Si) is the most important semiconductor material broadly used in both electronics and optoelectronics. However, the performance of Si-based room temperature detectors is far below

Dec 09, 2025 Hot

Silicon PIN Photodiode | Advanced Photonix

These Silicon PIN photodiodes are highly sensitive to UV and super blue light, designed with optimized responsivity from 200-400nm or 450nm and above. They

Aug 05, 2025 Hot

Silicon Photomultiplier—A High Dynamic Range, High

Designing a high-sensitivity, wide dynamic range and low-noise application-specific integrated circuit (ASIC) for silicon photomultipliers (SiPMs)

May 06, 2026 Hot

photodetector-amplifier modules | AMI

The 710 Series are high sensitivity, low noise photodetector-amplifier modules that offer the flexibility of incorporating a variety of silicon or InGaAs, PIN

Jan 13, 2026 Hot

Multi-band High-Performance Graphene Mid-infrared Photodetector

Optical photodetectors are critical components in modern optical communication systems and advanced optoelectronic technologies, where enhancing their efficiency, sensitivity, and

Jul 17, 2025 Hot

High-speed photodetectors in optical communication

Therefore, high-speed detectors and detector array receiver modules are still research hotspots for optical communication systems. The sensitivity is a

Sep 21, 2025

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For more information, pricing, or custom solutions, please contact us:

Website: https://www.eedenmarketing.co.za
Email: info@moletenare-ew.co.za
Phone: +86 138 1658 3346
Address: Ningbo, China

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