

SPD optical module



Overview

SPD-25-MM The Optilab SPD-25-MM is a highly linear, 25 GHz bandwidth GaAs PIN photodetector that is optimized for 850 nm operational wavelength w/Multimode.

Key Takeaways

SPD optical modules are high-sensitivity single-photon detection devices that convert individual photons into electrical signals, optimized for visible and near-infrared applications. OverviewSPD (Single-Photon Detector) optical modules are designed to detect extremely low levels of light, down to individual photons. They typically use Single-Photon Avalanche Diodes (SPADs) operating in Geiger mode, which allows the module to generate a digital pulse for each detected photon.

These modules are widely used in quantum optics, quantum communication, LIDAR, and high-precision sensing applications.

Key Features

Wavelength Range: SPD modules cover visible to near-infrared spectra. For example, Aurea SPD_OEM_NIR operates from 900-1700 nm, while Dimension Labs modules cover 400-1700 nm.

SIMTRU

M offers modules from 200-1600 nm for Si-APDs and 900-1700 nm for NIR SPDs. Photon Detection Efficiency (PDE): Efficiency varies by wavelength and technology. Aurea modules achieve up to 30% at telecom wavelengths, while Dimension Labs Si-SPDs can reach 60% at 650 nm.

Dark Count Rate (DCR): Low DCR is critical for accurate photon counting. Aurea SPD_OEM_NIR modules have DCR

Article Content

SPD-25-MM

The Optilab SPD-25-MM is a highly linear, 25 GHz bandwidth GaAs PIN photodetector that is optimized for 850 nm operational wavelength w/Multimode Fiber (OM2); it is ideal for use in O/E front-ends

AUREA_SPD_NIR_OEM_data_sheet_2017

Recently redesigned, the single photon counter SPD_OEM_NIR provides the latest generation of compact and high-performance single photon detection module based on cooled InGaAs/InP Geiger

15 GHz Linear GaAs PIN Photodetector, 850 nm, Module

The Optilab SPD-15-M is a highly linear, 15 GHz bandwidth GaAs PIN photodiode module that is optimized for 850 nm operational wavelength; it is ideal for use in O/E front-ends requiring wide band

Optical module design resources | TI

View the TI Optical module block diagram, product recommendations, reference designs and start designing.

SPD-15-M 15 GHz Photodetector

The Optilab SPD-15-M is a highly linear, 15 GHz bandwidth GaAs PIN photodiode module that is optimized for 850 nm operational wavelength; it is ideal for use in O/E front-ends requiring wide band

Photodetectors (SPD,PMT,APD) | SIMTRUM Photonics

Visible Photon Counters, Infrared Photon Counter, avalanche photodiodes and detectors - SIMTRUM is a leading service provider in the field of Quantum

EQ Photonics: Turn-Key single photon counting (SPC)

The SPD_OEM generates a TTL pulse for each photon. 30% quantum efficiency and a dark count rate of less than 5×10^6 per ns gate allows fast and accurate

Thorlabs · Single Photon Detectors

The SPDMA Single Photon Detection Module, designed for use from 350 to 1100 nm, features continuously adjustable gain and an SMA electrical connector from

SPD_OEM_NIR | Electro Optics

Aurea Technology has launched the SPD_OEM_NIR, the first continuous and gated modes near-infrared [900nm-1,700nm] Single Photon Counting module, based on Geiger-mode SPAD.

Thorlabs · Single Photon Detectors

Thorlabs offers single photon detectors and counting modules with a range of photon detection efficiencies (PDEs), detector sizes, gain options, and

Silicon single-photon detector achieving over 84% photon detection ...

Abstract—Silicon single-photon detectors (Si SPDs) play a crucial role in detecting single photons in the visible spectrum. For various applications, photon detection efficiency (PDE) is the most critical

Spectral power distribution

Spectral power distribution CIE standard illuminant spectral power distribution comparisons referenced to the human visual system photopic response In radiometry, photometry, and color science, a

What Is an Optical Module and Its FAQs (V200)

What Is an Optical Module and Its FAQs (V200) Describes what an optical module is and FAQs, including the fundamentals, appearance and structure, key performance counters, common types,

A dual branch SPD-Conv infrared distant multi-target tracking method ...

The application of SPD-Conv enhances the model's ability to capture subtle variations in target features, thereby improving detection performance and providing a more reliable detector for

Photodetectors (SPD,PMT,APD) | SIMTRUM Photonics Store

Single photon detector (SPD): Si-APD photodetector 200-1600nm □ Visible SPD 200-1060nm □ NIR SPD 900-1700nm □ Super Conducting Nanowire System 780-1625nm □ Visible Photon Counter 350

Optical module

An optical module is a typically hot-pluggable optical transceiver used in high-bandwidth data communications applications. Optical modules typically have an electrical interface on the side that

Understanding Optical Modules: A Comprehensive Guide

Optical Module Basics: Understanding the Core ConceptsOptical modules are compact devices that convert electrical signals into optical signals

SPD Smart Glass | Smartglass World

How does SPD smart glass work? The rod-shaped SPD particles orient themselves randomly (following the laws of Brownian motion) when there

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

