# Laser APD Diode



## Overview

The APD modules are based on low-noise avalanche photodiodes made of either silicon or InGaAs with a built-in pre-amplifier and high voltage supply. APD modules enable very low light levels to be detected quickly and simply in a variety of applications such as laser radar, rangefinding, data transfer or biomedical analysis. APDs use materials and a structure optimised for operating with high reverse bias voltage, approaching the reverse. OSI Laser Diode manufactures advanced optoelectronics products designed for the telecommunications, data communications, broadband access, industrial, aerospace, test and measurement, medical and defense industries. In this regime, carriers (electrons and holes) excited by absorbed photons are strongly. S i APDs are suitable for the spectral range from 260 nm to 1100 nm. LASER COMPONENTS manufactures different series: highest quality for demanding systems, over customized version to components made for. The OSI Laser Diode Inc. Designed to provide high responsivity and low leakage, LDI's detector modules exhibit low back reflection along with low polarization dependent loss (PDL).

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## Article Content

Avalanche photodiode

OverviewHistoryPrinciple of operationMaterialsPerformance limitsFurther reading

An avalanche photodiode (APD) is a highly sensitive type of photodiode, which in general are semiconductor diodes that convert light into electricity via the photovoltaic effect. APDs use materials and a structure optimised for operating with high reverse bias voltage, approaching the reverse breakdown voltage, such that charge carriers generated by the photovoltaic effect are multiplied by an avalanche breakdown; thus

APD Applications Notes | OSI Laser Diode Inc.

APDs are typically used in applications requiring both high bandwidth and high sensitivity. The operational wavelength of the APD is determined by its material composition. Two of the more

Avalanche Photodiodes – APD, single-photon detection,

Typical applications of avalanche photodiodes include receivers in optical fiber communications, range finding, imaging, high-speed laser scanners, laser

Si Avalanche Photodiodes

Since the foundation of LASER COMPONENTS Detector Group, Inc. in 2004 we have built a product range comprising high quality APDs as well as low cost

InGaAs APD / PIN Modules | OSI Laser Diode Inc.

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Thorlabs · Free-Space Si Avalanche Photodetectors

The APD avalanche photodiode series can provide an extremely sensitive alternative to traditional PIN photodiodes. They are also fast enough for the

What is PIN and APD Photodiodes in Optical Transceivers

This article explores the concept, working principles, types, differences, and applications of photodiodes, while introduce some optical

Avalanche Photodiodes: A User''s Guide

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For low-light detection in the 200 to 1150 nm range, the designer has three basic detector choices - the silicon PIN detector, the silicon avalanche photodiode (APD) and the photomultiplier tube (PMT).

Laser Diodes For Business

Check out our collection of avalanche photodiodes (APDs). You can pick from Single-Mode (SM), Polarization-Maintaining (PM), or Multimode (MM) optical fibers, depending on your needs.

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Laser Diode Market by Type, Doping Material, Technology, Mode of Operation, Application - Global Forecast 2026-2032 - The Laser Diode Market is projected to grow by USD 23.62 billion at a

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When it comes to engraving metal, not all laser machines are created equal. While $CO_2$ and diode lasers can handle some materials well, they do not offer the longest-lasting results on raw

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This is the ultimate beginner''s guide to the laser diode. Learn how lasers work and how you can use them in your own projects with this guide.

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