

50 GHz Waveguide-Integrated Photodetector

This photodetector incorporates a waveguide-integrated single photodiode chip. Its design provides an optimized frequency response for power and phase applications.



Overview

High-Performance 50 GHz Photodetector

This waveguide-integrated photodetector is designed for high-speed optical systems, offering an optimized frequency response in both power and phase. It features a unique on-chip spot size converter for high responsivity and a robust waveguide structure that enables linear response up to 10 dBm. With its integrated bias network and minimal pulse ringing, it provides reliable performance for demanding microwave photonics and communication applications.

Performance Metrics

Key Performance Indicators

50 GHz

Bandwidth

10 dBm

Max Optical Input

1 Vpp

Output Voltage Swing

Technical Features

Core Features

- Waveguide-integrated single photodiode chip
- On-chip integrated spot size converter
- Integrated on-chip bias network
- Optimized frequency response (Power & Phase)
- RF packaging designed for minimal pulse ringing
- Well matched to 50 Ω impedance

Applications

Target Applications

DWDM, 40 Gb/s (OC-768) Systems, Microwave Photonics (up to 60 GHz), High-speed Lightwave Characterization

Operational Details

Frequency Response Range

DC to 3 dB cut-off frequency

Linear Response Limit

10 dBm

Pulse Behavior

Excellent response with almost no ringing