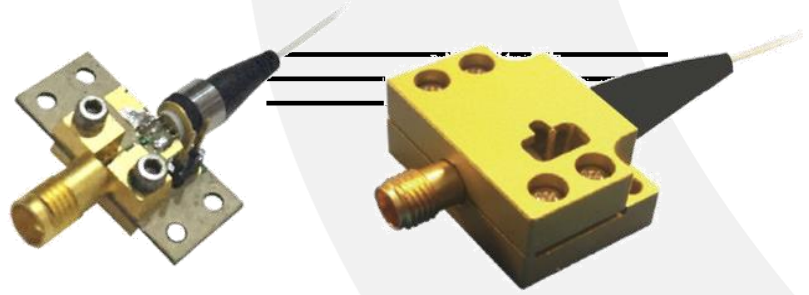


PD-23B



DEVICE

23 GHz Linear InGaAs PIN Photodetector

OVERVIEW

The Optilab PD-23B is a highly linear, 23 GHz bandwidth InGaAs PIN photodetector that is ideal for use in O/E front-ends requiring wide band frequency response. The coplanar waveguide photodiode design optimizes speed and sensitivity for the 1260 nm through 1610 nm wavelength range and assures a 23 GHz frequency response necessary for digital and analog applications. The front-illuminated mesa-structured PIN design allows a high input power level of up to 40 mW. The PD-23B is available in a standard 2-pin package with SMA RF connector output for ease of assembly and can be ordered with or without the external protective housing. Contact Optilab for more information.

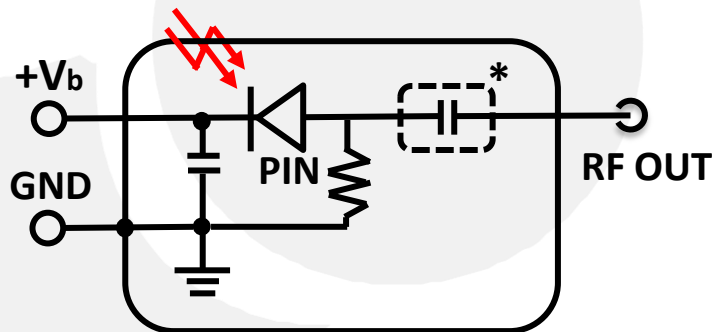
FEATURES

- Bandwidth 60 KHz to 23 GHz
- DC to 23 GHz, DC version
- Highly linear to 40 mW+ input power
- Operating Temperature from -30 °C to +60 °C (TQ Version: -55 °C to +70 °C)
- High current handling up to 35 mA
- Flat frequency response, ± 1 dB
- Useful spectral range 850 nm - 1650 nm

USE IN

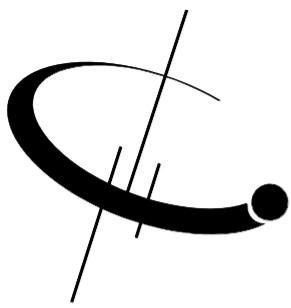
- 23 GHz Analog RF over Fiber
- Optically amplified photonics link
- RZ and NRZ up to 20 Gb/s
- Coherent lightwave systems
- Front-End O/E converter for test instrument

FUNCTIONAL DIAGRAM



*Optional DC Block for AC Coupled Version





PD-23B

SPECIFICATIONS

Optimized Operating Wavelength	1260 nm to 1610 nm
Useful Operating Wavelength	850 nm to 1650 nm
Optical Input Level	40 mW max.
S21 3 dB Bandwidth	19 GHz min., 21 GHz typ.
S22 Characteristics	< -10 dB @ 12 GHz, < -6 dB @ 20 GHz
Low Frequency Cut Off	60 KHz; DC for DC version
Responsivity	0.8 A/W @ 1550 nm min.
Dark Current @ 25°C, 5 V	100 nA max.
Optical Return Loss	-30.00 dB typ.
Optical PDL @ 1550 nm	0.05 dB max.
Optical Fiber	SMF-28
Bias Voltage	5 V typ.
Impedance	50 Ω
Coupling	AC-Coupled, DC Coupled is available

GENERAL

MECHANICAL

Operating Temperature	Standard: -30 °C to +60 °C Temperature Qualified: -40°C to +75°C
Storage Temperature	-65 °C to +75 °C
Operating Humidity	85%
Package Type	2-pin module with SMA Female RF connector
Dimensions	30 mm x 20 mm x 14 mm
Fiber Connector	FC/APC
Optical Fiber	SMF-28 with 900 mm tube

ABSOLUTE MAXIMUM RATINGS

PIN Bias Voltage	+2.0 to +7 V
Forward Current	35 mA
Optical Input Power	40 mW
Lead Soldering Temp (10s)	250 °C

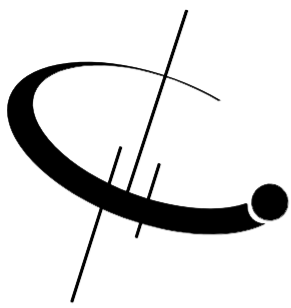
OPTIONS

PD-23B-X-YY

X: A, No Housing, default
 B, Legacy Housing
 C, External Housing

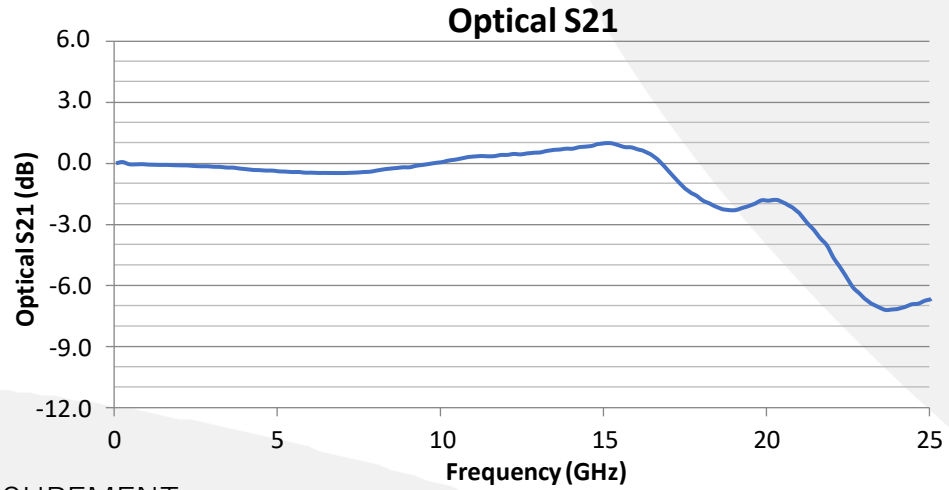
YY: DC, DC Version
 AC, AC Version



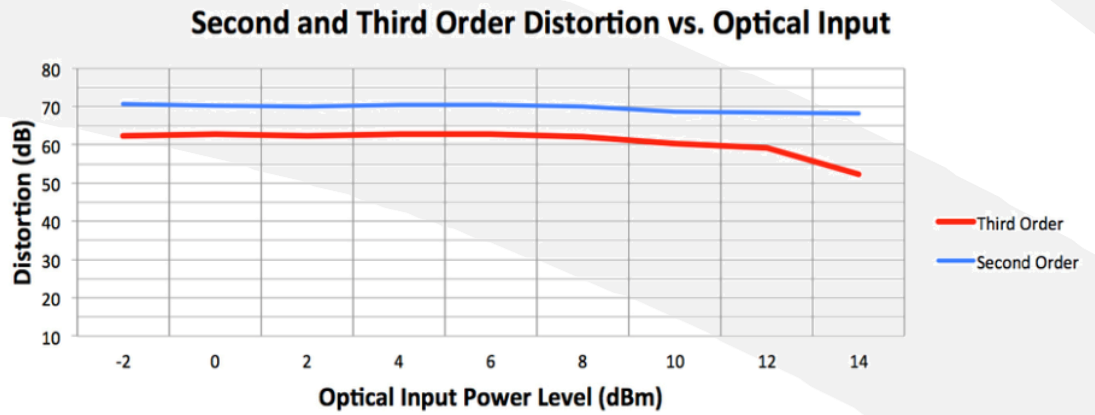


PD-23B

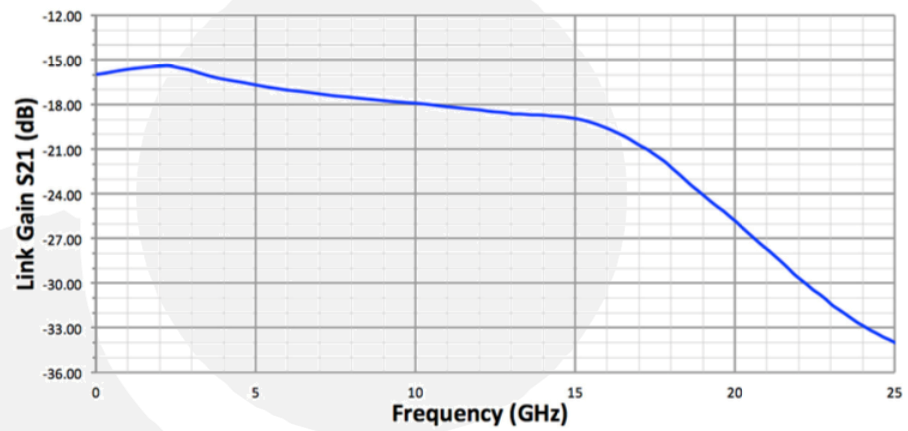
S21 O/E RESPONSE

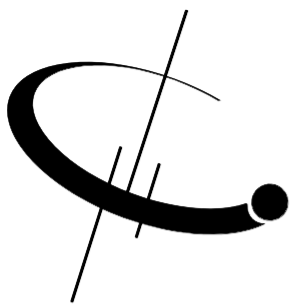


CSO, CTB LINEARITY MEASUREMENT



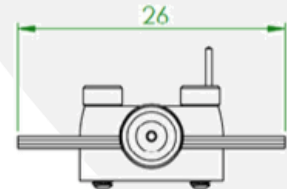
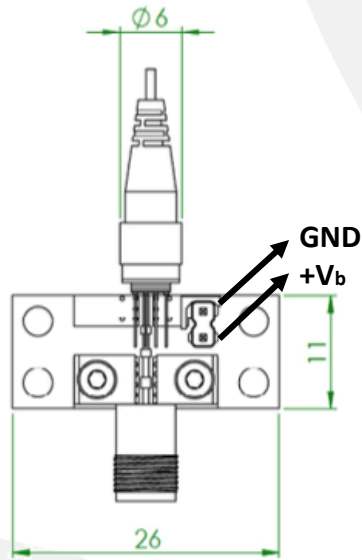
LINK GAIN WITH IM-1550-20



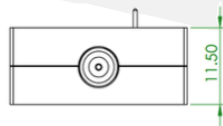
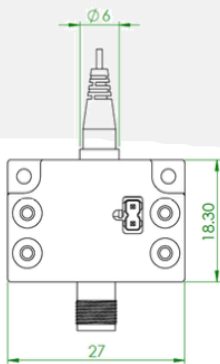


PD-23B

PD-23B-A Mechanical Drawing



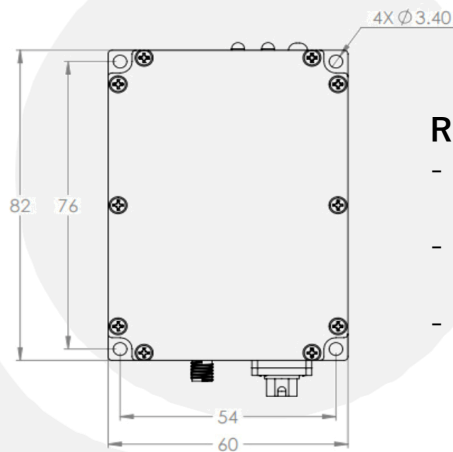
PD-23B-C Mechanical Drawing



- 1 All measurements are in Metric
 - 2 External housing is for Mechanical Protection Only
- Legacy housing information available upon request

Unit: mm

PD-23B-M: Module



Unit: mm

Ready to use module

- Power and Remote Monitoring
- Status Monitoring: RS-232 (Standard)
- No TIA for Intrinsic Phase Linearity

