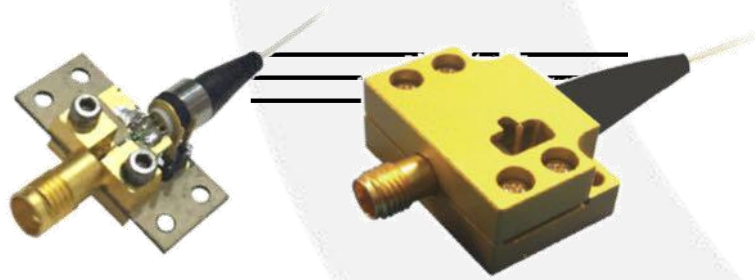




PD-30B



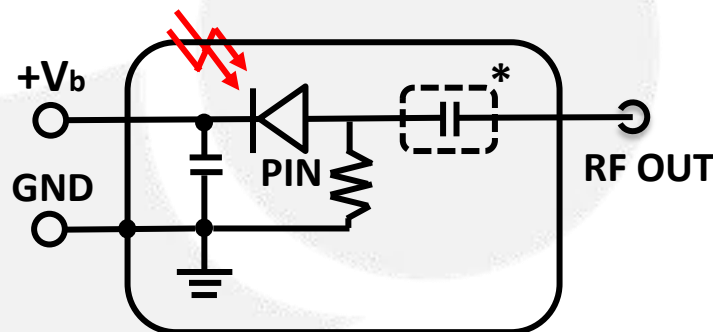
DEVICE 30 GHz Linear InGaAs PIN Photodetector, Low Responsivity

OVERVIEW The Optilab PD-30B is a highly linear, 30 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 30 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 20 mW. The PD-30B 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 30 GHz
 - DC to 30 GHz, DC vers on
 - Highly linear to 30 mW+ input power
 - Operating Temperature from -10 °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**
- 30 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-30B

SPECIFICATIONS

Optimized Operating Wavelength	1260 nm to 1610 nm
Useful Operatng Wavelength	850 nm to 1650 nm
Optical Input Level	10 mW average, 20 mW peak
S21 3 dB Bandwidth	28 GHz min., 30 GHz typ.
S22 Characteristics	< -10 dB @ 20 GHz
Low Frequency Cut Off	60 KHz; DC for DC version
Responsivity	0.70 A/W @ 1550 nm typ., 0.65 A/W @ 1550 nm min. 10
Dark Current @ 25°C, 5 V	nA typ., 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

ANALOG APPLICATIONS

Ripple over any 1 GHz	±1.0 dB max.
Group Delay	< 7.0 ps
2 nd Harmonics Distortion	-70.0 dBc max.
3 rd Harmonics Distortion	-75.0 dBc max.

LINK PERFORMANCE W/ LT-20

SFDR	113 dB Hz ^{2/3}
Link Loss	-25 dB @ 10 dBm Optical Input

MECHANICAL

Operating Temperature	Standard: -10 °C to +60 °C TQ Version: -55 °C to +70 °C
Storage Temperature	-55 °C to +75 °C
Operating Humidity	85%
Photodiode Bias Voltage	5 V, ± 1 V DC
Package Type	2-pin module with SMA or K Female RF connector
Dimensions	30 mm x 20 mm x 14 mm
Fiber Connector	FC/APC
Optical Fiber	SMF-28 with 900 mm tube

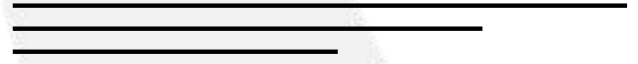
ABSOLUTE MAXIMUM RATINGS

PIN Bias Voltage	+2.0 to +7 V
Forward Current	35 mA
Optical Input Power	30 mW
Lead Soldering Temp (10s)	250 °C





PD-30B



PD-30B-X-YY

OPTIONS

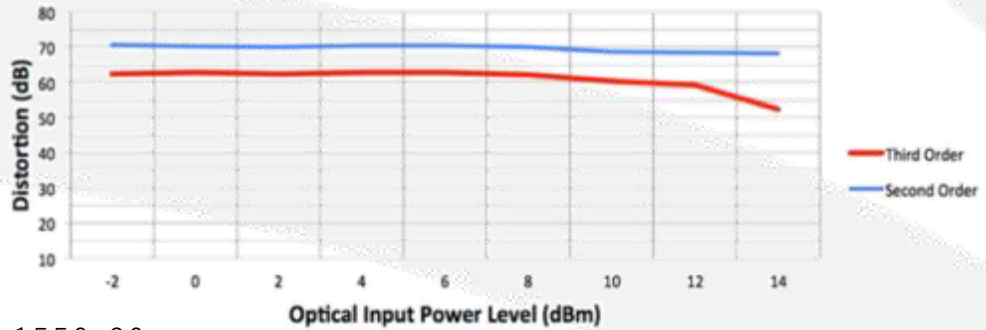
X: A, No Housing, default
B, Legacy Housing
C, External Housing

YY: DC, DC Version

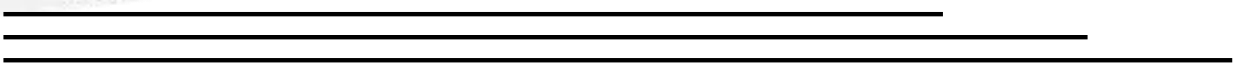
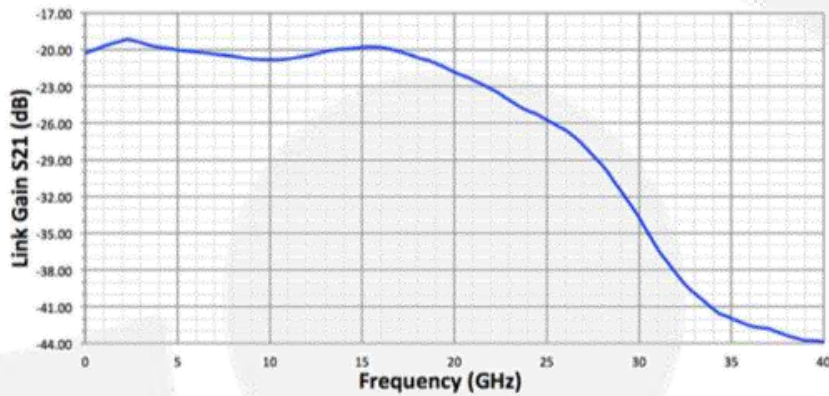
ZZ: TQ: Temperature Qualified

CSO, CTB LINEARITY MEASUREMENT

Second and Third Order Distortion vs. Optical Input



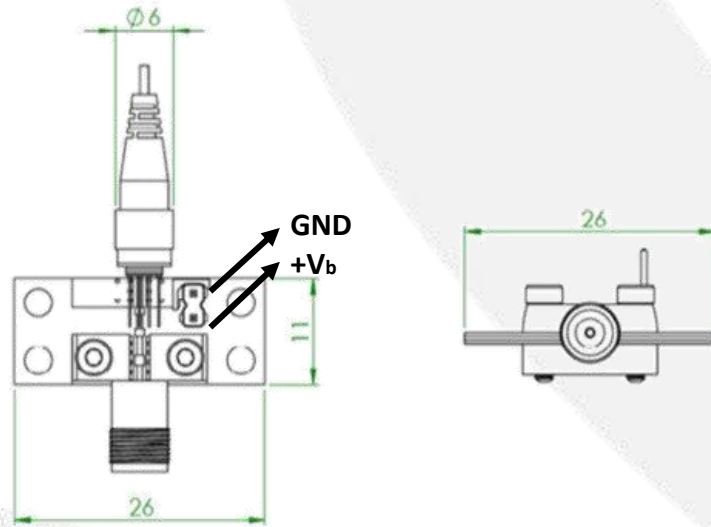
LINK GAIN WITH IM-1550-20



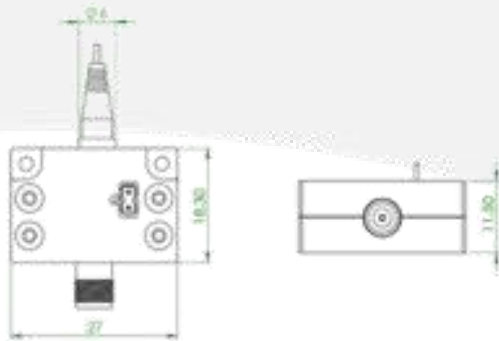


PD-30B

PD-30B-A Mechanical Drawing



PD-30B-C Mechanical Drawing



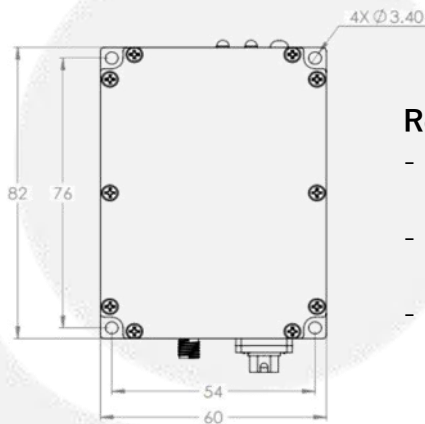
¹ All measurements are in Metric

² External housing is for Mechanical Protection Only

Legacy housing information available upon request

Unit: mm

PD-30B-M Module



Unit: mm

Ready to use module

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

