

PD-40-M



40 GHz Photodiode, Module

The Optilab PD-40-M is a 40 GHz bandwidth PIN receiver module designed for RF over Fiber, antenna remoting, and broadband RF transmission applications using single mode optical fiber. The PD-40-M can accept input power of up to 10 mW, utilizing a high input power, low distortion PIN photodiode that provides optical to RF conversion out to the frequency range beyond 40 GHz. This compact, cost-effective receiver module can provide users with status monitoring through the use of an on-board processor that communicates to a host computer over an RS-232 I/O interface via a standard USB 2.0 port. When the PD-40-M RF over fiber receiver module is linked with the LT series of RF over fiber transmitter modules, the combination provides an excellent solution for ultra-wideband RF to fiber conversion applications, go to optilab.com for more details.

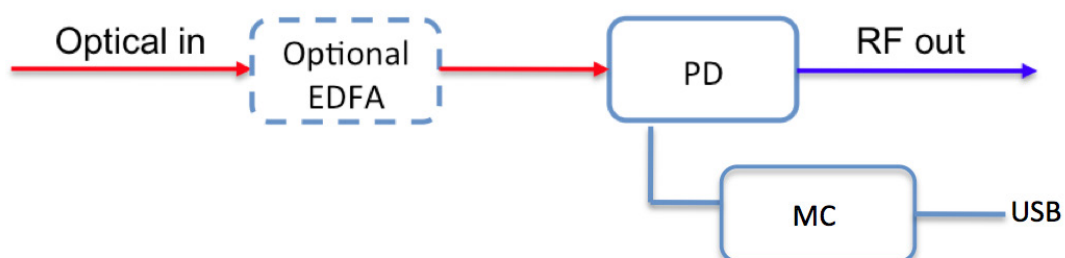
Features

- Wide bandwidth 60 KHz to 40 GHz
- Highly Linear to 10 mW+ input power
- Operating Temperature from -10°C to +50°C
TQ Version: -55 °C to +70 °C
- Power and Remote Monitoring via [USB port](#)
- Flat frequency response, ±1 dB
- Useful Spectral Range 850 nm -1650 nm

Applications

- Analog RF over Fiber
- Optically Amplified Systems
- RZ and NRZ up to 40 Gb/s
- LIDAR Measurements
- Coherent Lightwave Systems
- Front-End O/E Converter for Test Instruments
- Satcom microwave antenna signal distribution

Functional Diagram



40 GHz Photodiode, Module

OPTIONS

PD-40-M-XX

XX TQ: Temperature Qualified

TECHNICAL INFO

For technical info and support:

sales@optilab.com

www.optilab.com

WEB ORDER

To order, please click below.



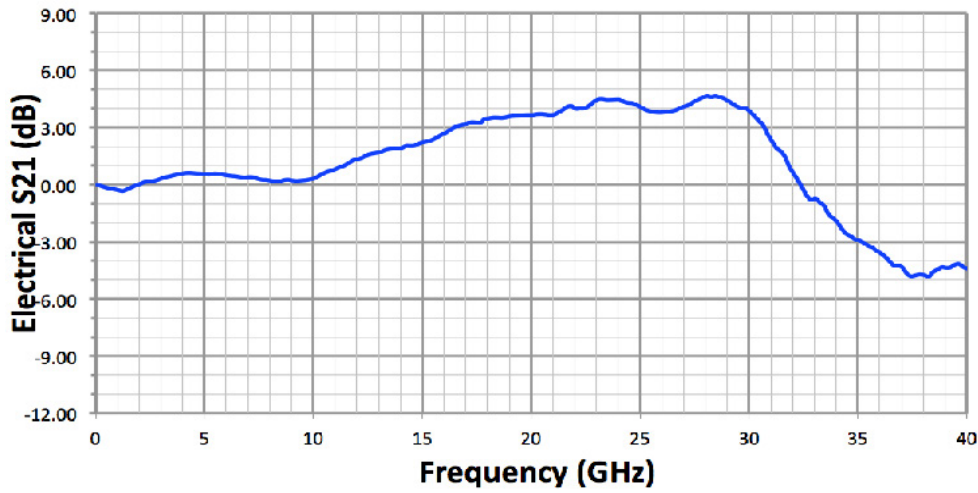
Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

General Specifications	
Optimized Operating Wavelength	1260 nm to 1610 nm
Useful Operating Wavelength	850 nm to 1650 nm
Optical Input Level	10 mW max.
S21 3 dB Bandwidth	31 GHz min., 33 GHz typ.
S22 Characteristics	< -10 dB @ 30 GHz
Responsivity	0.80 A/W @ 1550 nm typ. 0.35 A/W @ 850 nm typ.
Dark Current @ 25° C, 5 V	10 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	DC Coupled
Analog Applications	
Ripple over any 1 GHz	±1.0 dB max.
Group Delay	±7.0 ps
2nd Harmonics Distortion	-70.0 dBc max.
3rd Harmonics Distortion	-75.0 dBc max.
Link Performance with LT-20	
SFDR	113 dB Hz ^{2/3}
Link Loss	-25 dB @ 10 dBm Optical Input
Mechanical Specifications	
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%
Power Supply Requirements	5 V DC, 500 mA max.
Optical Connector	FC/APC, SC/APC Optional
RF Input Connector	K Connector Female, 50 Ω
Remote Alarms	RS-232 Interface (Standard) via USB
Local Alarm	LED: Optional Input Power
Dimensions	82 mm x 60 mm x 26.5 mm
Accessories Included	110 V - 240 VAC USB Adaptor & Cable
Housing	Precision Mach. Anodized Aluminum

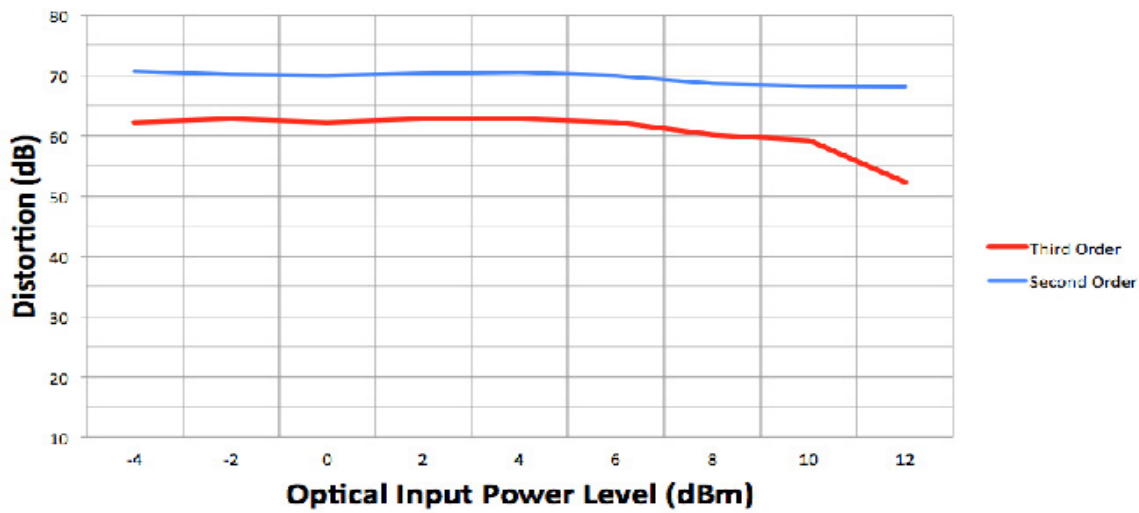
40 GHz Linear InGaAs PIN Photodetector

S21 O/E Response¹

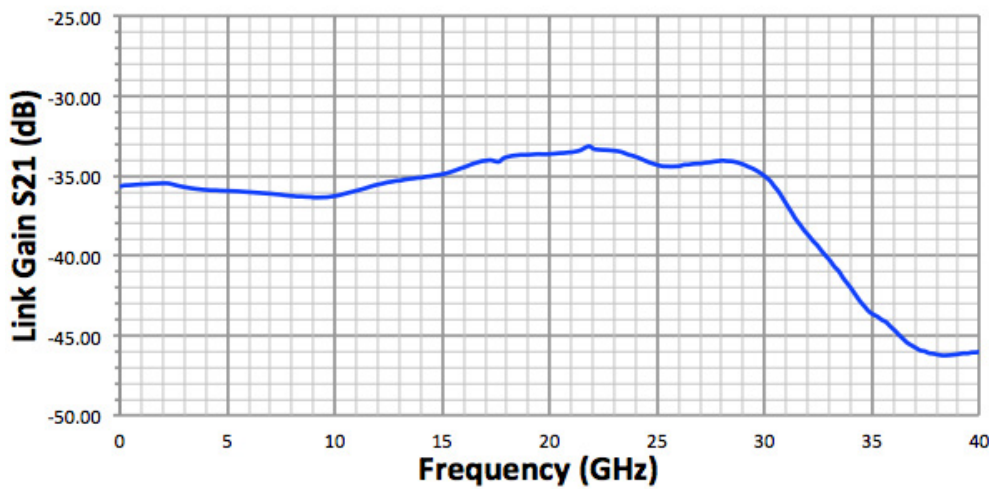


CSO, CTB Linearity Measurement²

Second and Third Order Distortion vs. Optical Input



Link Gain with IM-1550-40-PM

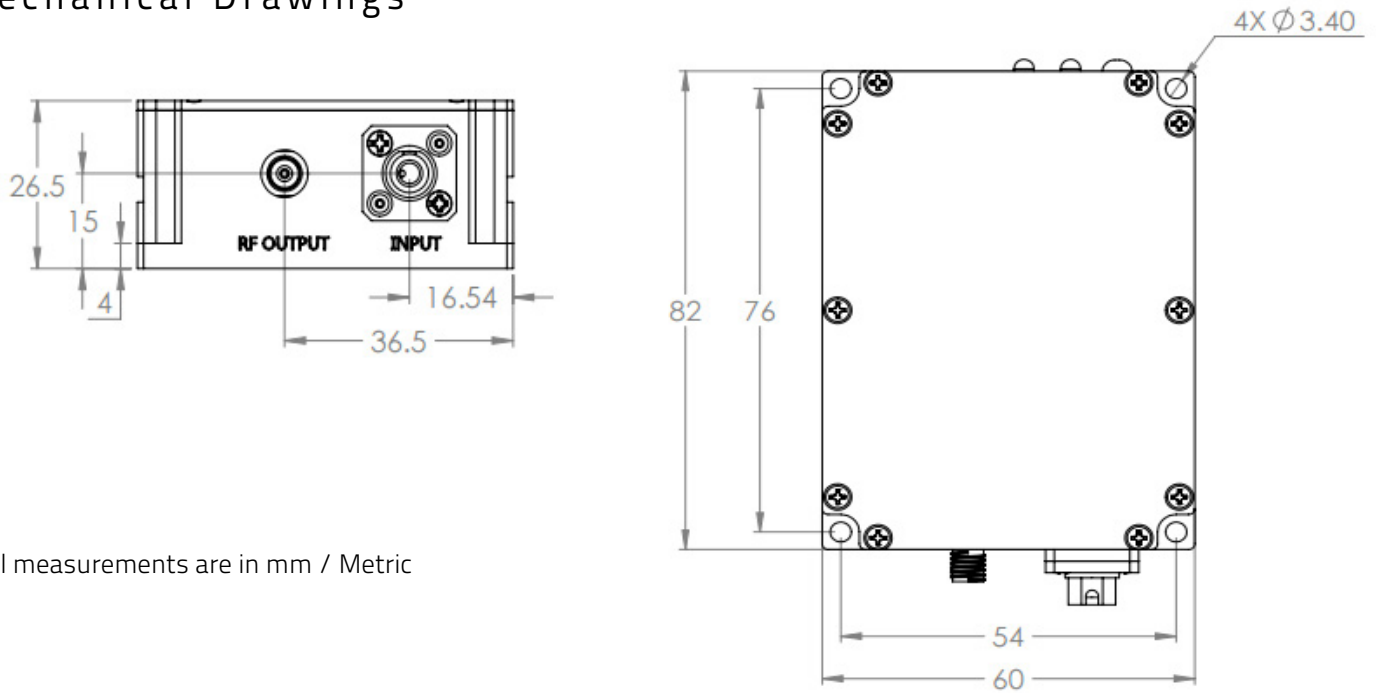


¹ Measured by Agilent 86030A Lightwave Component Analyzer

² 40 Channel Analog Channel Loading

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Mechanical Drawings



¹ All measurements are in mm / Metric

PD-40-M Module Power and Remote Interface

The PD-40-M product series offers a turn-key modular solution with a USB 2.0 interface, which can be operated with the provided AC/DC adapter included with each PD-40-M unit or through a PC for optical power monitoring. Contact Optilab for more information.

