

IMP-1550-10-PM



DEVICE

1550 nm, 10 GHz Intensity Modulator w/PM Output

The Optilab IMP-1550-10-PM is a 10 GHz Intensity Modulator that is manufactured with Annealed Proton Exchange(APE) process, it features a zero-chirp design and Polarization Maintaining(PM) fiber output. IMP-1550-10-PM features 10 GHz E/O bandwidth, a highly linear transfer function and excellent extinction ratio. Applications include digital transmission up to 10 Gb/s, analog RFoF transmission to 10 GHz, optical pulse generation, mode-locked fiber laser and microwave optical link. The IMP-1550-10-PM is compatible with a wide variety of modulator drivers, and a separate bias port allows the modulator to operate at specific points of the transfer function. The IMP-1550-10-PM Modulator is designed for external modulation of 1550 nm laser up to 10 GHz or 12.5 Gb/s. It is also applicable for pulse generation for Master Oscillator Power Amplifier(MOPA) configuration. Due to proprietary APE technology, IMP-1550-10-PM can handle input power beyond 100mW and is a bias-stabilized modulator. It has a wide operating temperature tolerance ranging from -30°C to +70°C. Contact Optilab for more information.

OVERVIEW

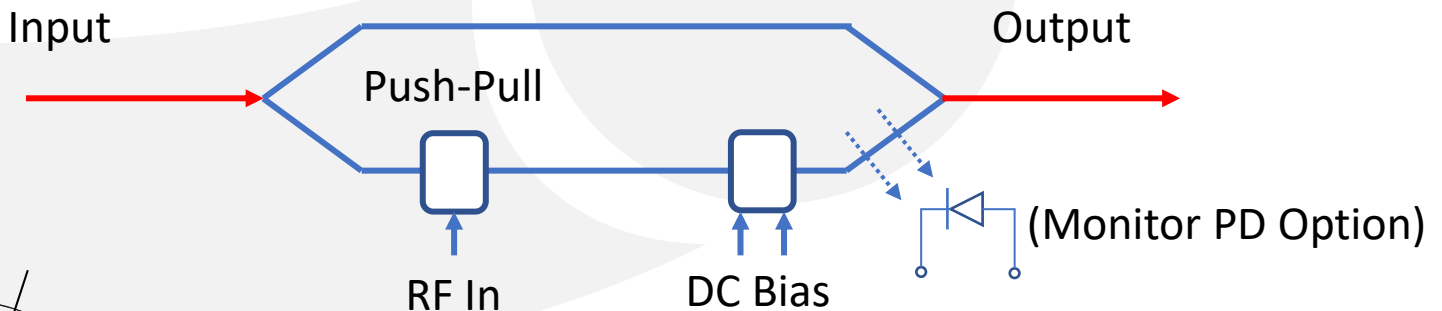
FEATURES

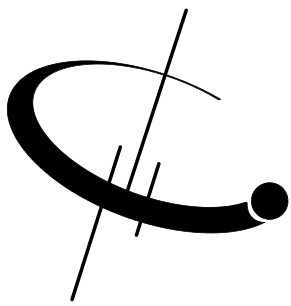
- PM fiber output
- High input power
- Zero chirp design
- Internal PD option
- 1525-1605nm operating wavelength
- High Extinction Ratio (HER) Available
- Temperature range of -30°C to 70°C

USE IN

- RF over fiber
- Pulse generation
- MOPA
- Analog modulation up to 10 GHz
- Active mode locked laser
- Satellite Link

FUNCTIONAL DIAGRAM





IMP-1550-10-PM

SPECIFICATIONS

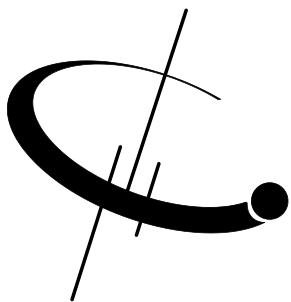
Maximum Input Power	100 mW
Operating Wavelength	1550 ± 30 nm
Chirp Value	≤ 0.2 max.
Insertion Loss	4.5 dB typ., 5.0 dB max.
Extinction Ratio	Typ. 7 V, ≥ 23 dB.
Optical Return Loss	≤ 40 dB
S21 3 dB Bandwidth	≥ 8 GHz typ.
Polarization Extinction Ratio	≥ 17 dB, 20 dB typ.
S11 Return Loss	≤ -10 dB DC to 7 GHz
Vπ (RF Port)	Typ. 7 V, 7.5 V max.
RF Input Power	26 dBm max.
Impedance (RF Port)	50 Ω typ.
Vπ (DC Port)	Typ. 7 V, 23 dB min.
Impedance (Bias Port)	1 MΩ min.
Internal PD Responsivity	> 10 mA/W

GENERAL

Operating Temperature	-30 °C to +70 °C
Storage Temperature	-50 °C to +80 °C
Operating Humidity	0% to 90% Relative Humidity
Input/Output Fiber Type	PANDA – PM 400um buffer
Input Connector	PM FC/APC
Output Connector	PM FC/APC
Crystal Orientation	X-cut, y-propagating
Waveguide Process	Annealed Proton Exchange (APE)
Bias Port Connector	2 Pins/4Pins Optional
RF Port Connectors	Anritsu K female
Cabling	900 um loose tubing
Dimensions	96 mm x 14 mm x 8.5 mm

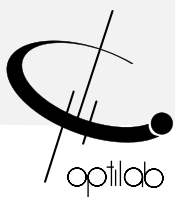
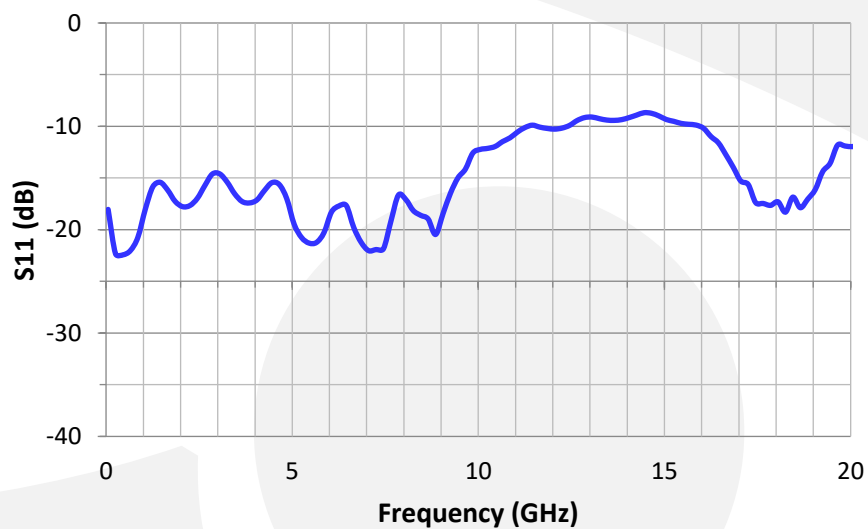
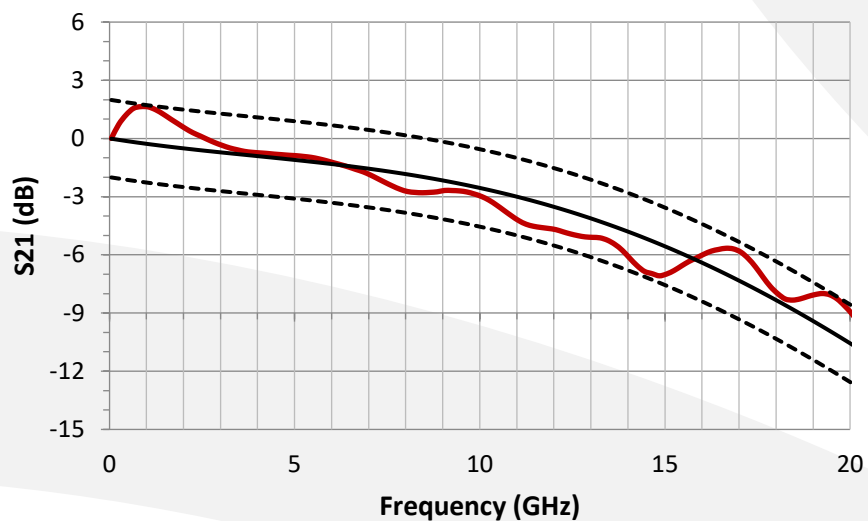
MECHANICAL

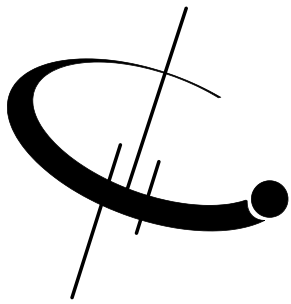




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SAMPLE S21 AND S11 BANDWIDTH

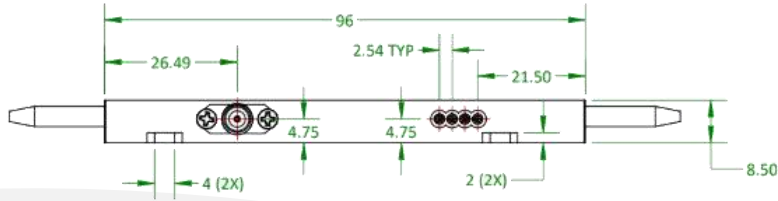
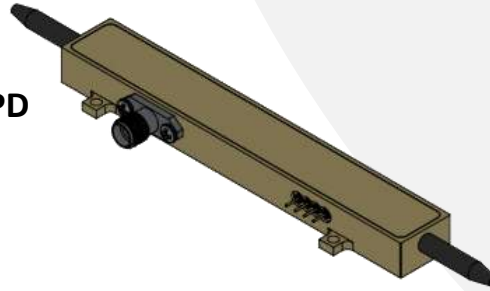




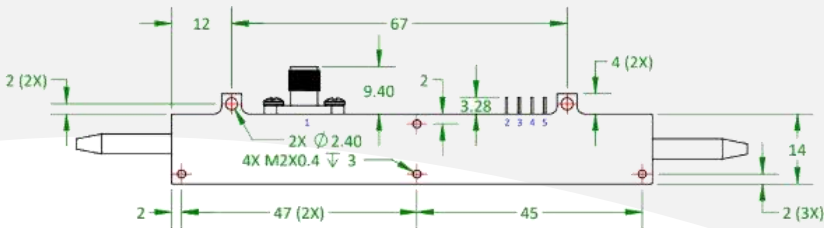
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MECHANICAL DRAWING

1. IMP-1550-10-PM-PD Housing, w/Monitor PD



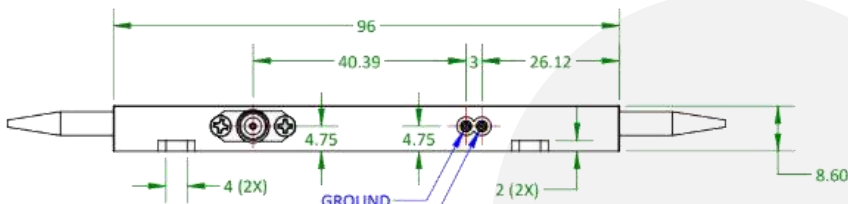
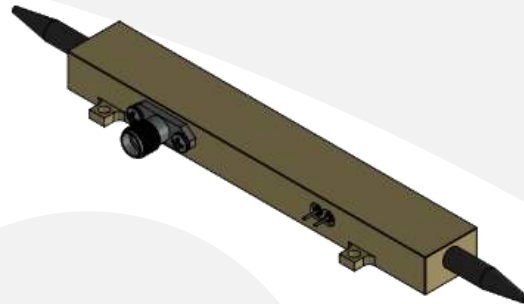
FRONT VIEW



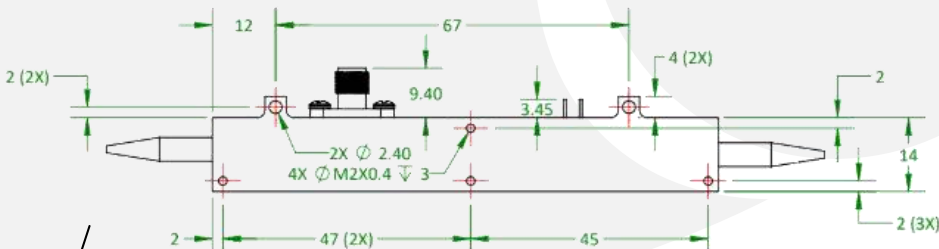
BOTTOM VIEW

PIN #	Symbol
1	RF
2	GND
3	B
4	PD-Anode
5	PD-Cathode

2. IMP-1550-10-PM Housing, No Monitor PD



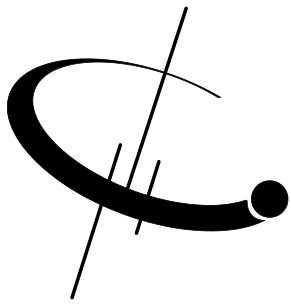
FRONT VIEW



BOTTOM VIEW

PIN #	Symbol
G	GND
B	DC BIAS





IMP-1550-10-PM

ORDERING
OPTIONS

IMP-1550-10-PM-XX
XX PD: Monitor PD

Available
Automatic
Bias Controller

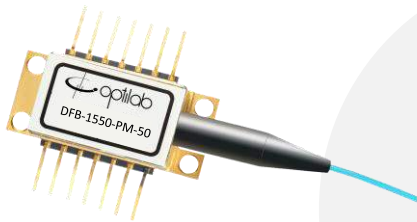
- **BCB-4**



The Optilab BCB-4 is a compact bias control board designed for IMP-1550-10-PM modulator

Available
Laser Source

- **DFB Laser Source**



The Optilab DFB-1550-PM-50 laser has polarization maintaining high output power up to 50mW

