

IMP-1064-40-PM



DEVICE

1064 nm, 40 GHz Intensity Modulator w/PM Output

OVERVIEW

The Optilab IMP-1064-40-PM is a Mach-Zehnder interferometer-based intensity modulator designed for 1 μ m wavelength band. The optical waveguide is fabricated with Annealed Proton Exchange(APE) process on X-cut single crystal lithium niobate material. It features a zero-chirp design and polarized input / output with PM fiber pigtailed. Applications include digital transmission up to 40 Gb/s, analog RFoF transmission to 30 GHz, optical pulse generation, mode-locked fiber laser and microwave optical link. Thanks to our proprietary APE technology, IMP-1064-40-PM can handle input power beyond 300mW and is a bias-stabilized modulator. Contact Optilab for more information.

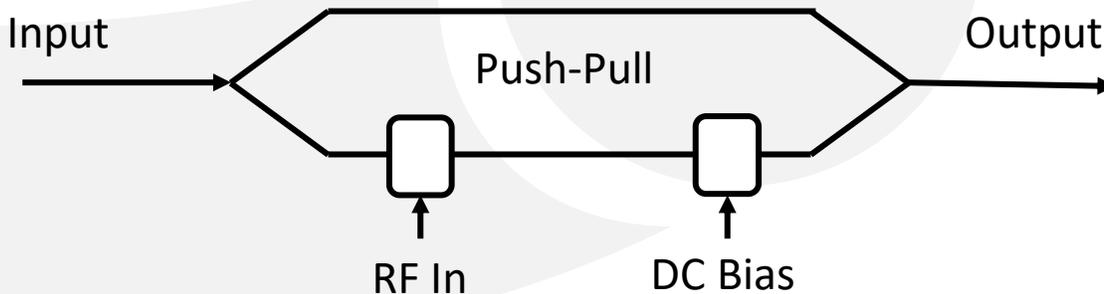
FEATURES

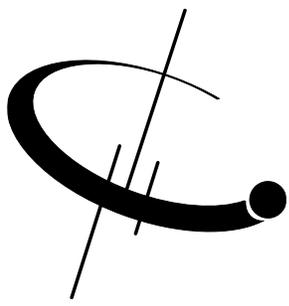
- PM Fiber Input & Output
- Zero Chirp Design
- 40 GHz Operation Bandwidth
- High Input Optical Power Handling
- High Extinction Ratio (HER) Available
- Temperature range of -5°C to 70°C

USE IN

- RF over fiber
- Pulse generation
- MOPA
- Analog modulation up to 40 GHz
- Active mode locked laser
- Satellite Link

FUNCTIONAL DIAGRAM





IMP-1064-40-PM

SPECIFICATIONS

GENERAL

Operating Wavelength	1030 nm to 1090 nm
Maximum Optical Input Power	≥ 300 mW
Insertion Loss	5.0 dB max., 4.2 dB typical
Static Extinction Ratio	≥ 20 dB, ≥ 30 dB for HER version
Chirp Value	± 0.1 max.
Optical Return Loss	≤ -40 dB, -50 dB typical
E to O S21 3dB Bandwidth (ref to 2GHz)	≥ 30 GHz, 35 GHz typ.
E to O S21 6dB Bandwidth (ref to 2GHz)	≥ 40 GHz
Electrical S11 Return Loss	≤ -7 dB up to 30 GHz
RF Port V _π @ 1GHz	≤ 4.2 V, 3.9 V typical
Bias Port V _π @ 1kHz	≤ 7 V, 6 V typical
RF Port Impedance	50 Ω
Bias Port Impedance	≥ 1 MΩ

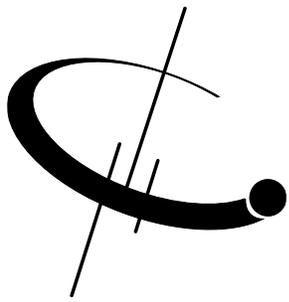
Mechanical

Input/Output Fiber Type	Corning PM98-U40D, Panda
Fiber Length	1 m typical, 0.8 m min.
Input Connector	PM FC/APC, slow axis aligned to narrow Key
Output Connector	PM FC/APC, slow axis aligned to narrow Key
RF Port Connectors	Anritsu V female (1.85 mm)
Cabling	900 um loose tubing
Dimensions	87 mm x 14.5 mm x 10 mm

Absolute Maximum Ratings

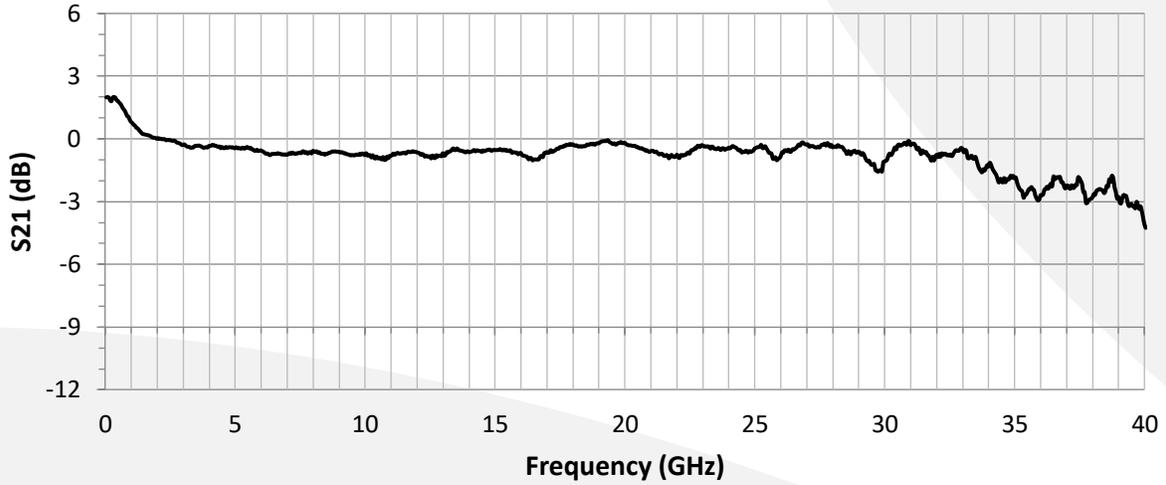
Operating Temperature	-5 °C to +70 °C
Storage Temperature	-40 °C to +85 °C
Operating Humidity	0% to 85% Relative Humidity, Non-Condensing
Maximum RF Input Power	+25 dBm
Maximum DC Bias Voltage	+/- 25 V



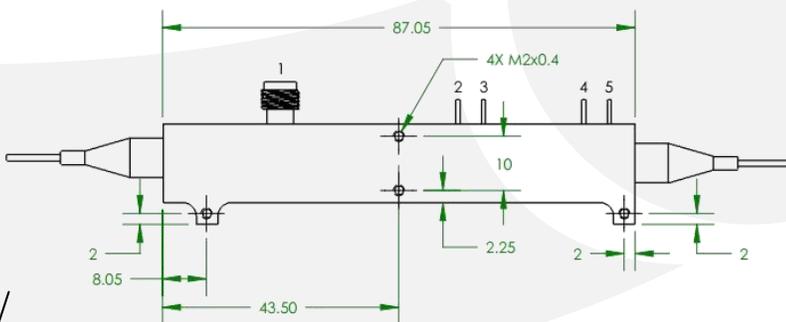
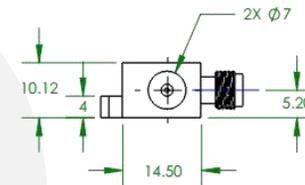
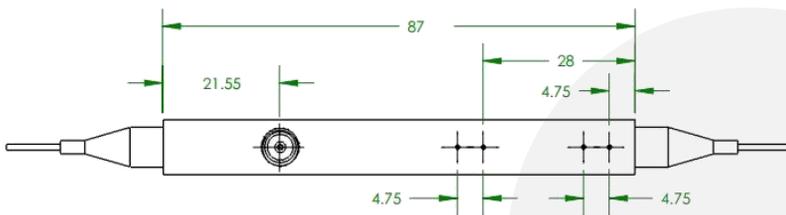
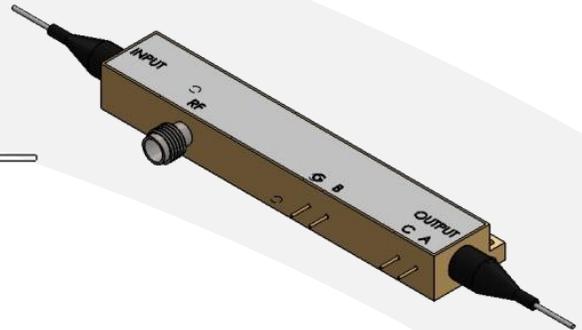
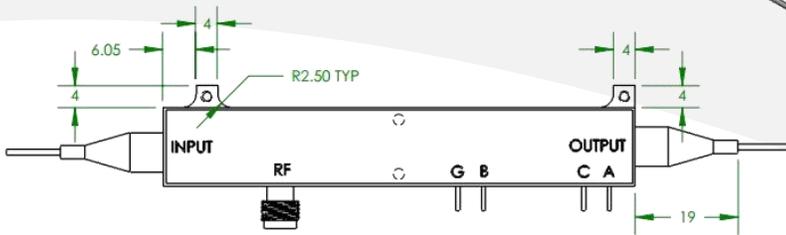


IMP-1064-40-PM

Typical S21 Response



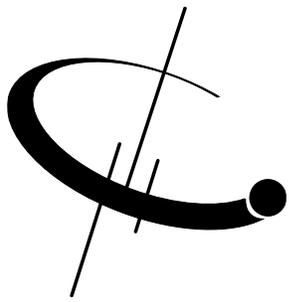
MECHANICAL DRAWING



PIN #	Description
1	RF Input, V female
2	Case Ground
3	DC Bias
4*	N. C.
5*	N. C.

* Reserved For Internal PD Option



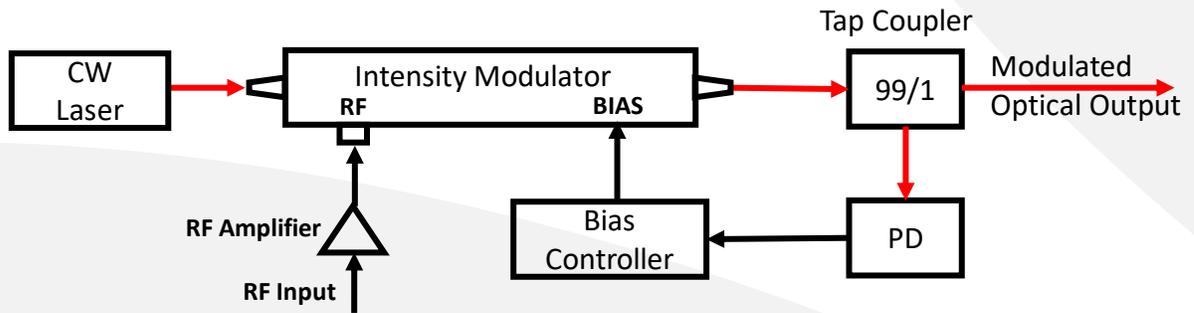


IMP-1064-40-PM

ORDERING OPTIONS

IMP-1064-40-PM-XXX
XXX HER: High Extinction Ratio, ≥ 30 dB
 LIL: Low Insertion Loss, ≤ 4.0 dB

Application Diagram



Related Product

- **BCB-4**



The Optilab BCB-4 is a compact automatic bias control board fully compatible with IMP-1064-40-PM modulator.

- **YDFA-PA-MSA**



The Optilab YDFA-PA-MSA is a high-gain single stage pre-amplifier module designed for 1064 nm wavelength. This compact module features a multiple source agreement (MSA) footprint housing.

