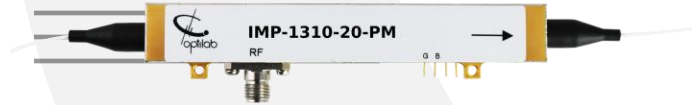


IMP-1310-20-PM



DEVICE

1310 nm, 20 GHz Intensity Modulator w/PM Output

The Optilab IMP-1310-20-PM is a 20 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-1310-20-PM features over 17GHz E/O 3dB bandwidth and excellent extinction ratio. Applications include digital transmission up to 23 Gb/s, analog RFoF transmission, optical pulse generation, mode-locked fiber laser and microwave optical link. The IMP-1310-20-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. Thanks to proprietary APE technology, IMP-1310-20-PM can handle optical input power up to 200mW. Contact Optilab for more information.

OVERVIEW

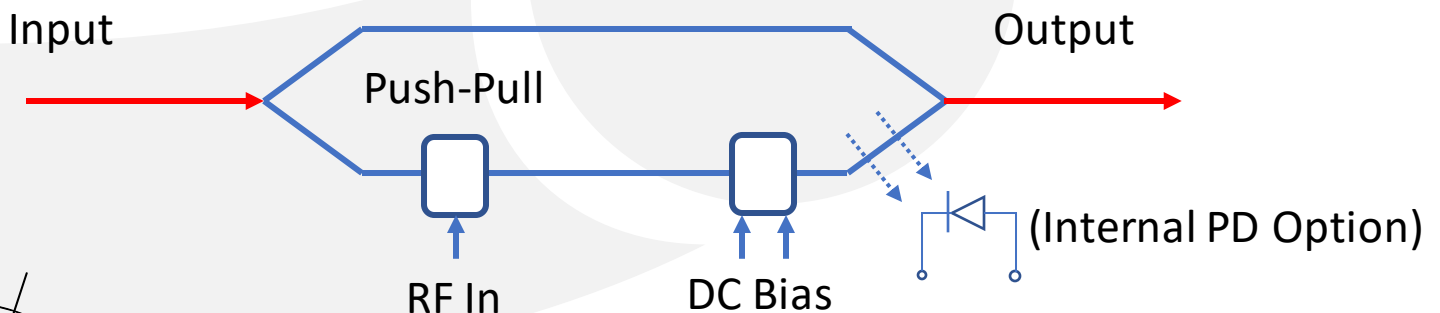
FEATURES

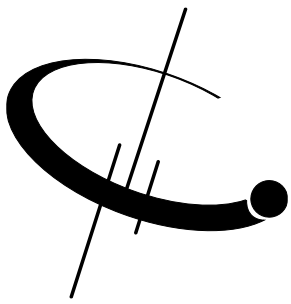
- PM fiber output
- High input power
- Zero chirp design
- 1270-1330nm operating wavelength
- High Extinction Ratio (HER) Available
- Temperature range of -25°C to 70°C

USE IN

- RF over fiber
- Pulse generation
- MOPA
- Analog modulation up to 20 GHz
- Active mode locked laser
- Satellite Link

FUNCTIONAL DIAGRAM





IMP-1310-20-PM

SPECIFICATIONS

Operating Wavelength	1270 nm to 1330 nm
Maximum Optical Input Power	200 mW
Insertion Loss	4 dB typical, 5 dB max.
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	≥ 17 GHz
Electrical S11 Return Loss	≤ -7 dB up to 20 GHz
RF Port V _π @ 1GHz	≤ 5.5 V, 5.0 V typical
Bias Port V _π @ 1kHz	≤ 8.5 V, 7.8 V typical
RF Port Impedance	50 Ω
Bias Port Impedance	≥ 1 MΩ

GENERAL

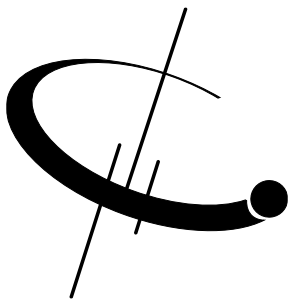
Input/Output Fiber Type	Corning PM3-U40D, Panda
Fiber Length	1 m typical, 0.8 m min.
Input Connector	PM FC/APC, slow axis aligned to narrow Key
Output Connector	PM FC/APC, slow axis aligned to narrow Key
RF Port Connectors	2.92 mm female
Cabling	900 um loose tubing
Dimensions	96 mm x 14 mm x 8.5 mm

Operating Temperature	-10 °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

MECHANICAL

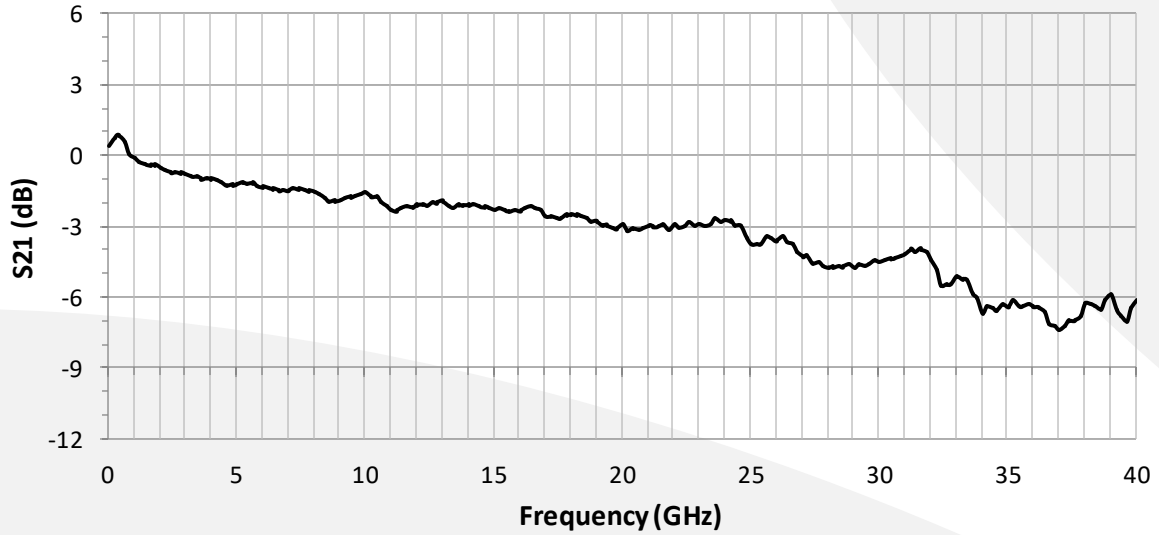
Absolute Maximum Ratings



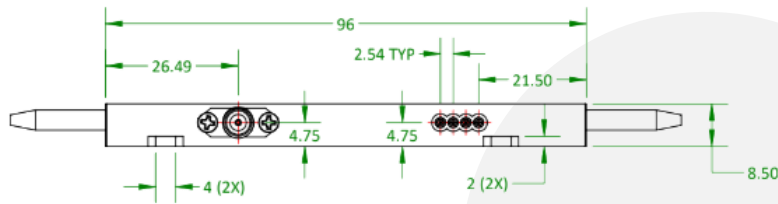
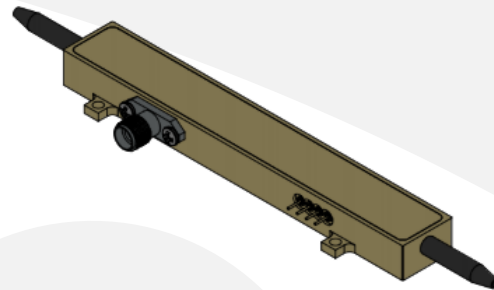


IMP-1310-20-PM

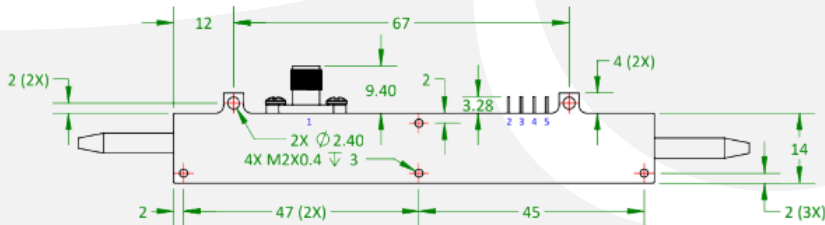
Typical S21 Response



MECHANICAL DRAWING



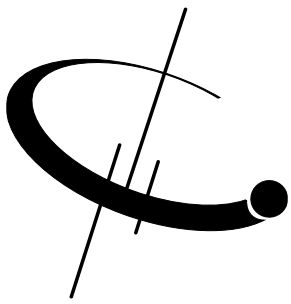
FRONT VIEW



BOTTOM VIEW

PIN #	Symbol
1	RF
2	GND
3	B
4	NC
5	NC





IMP-1310-20-PM

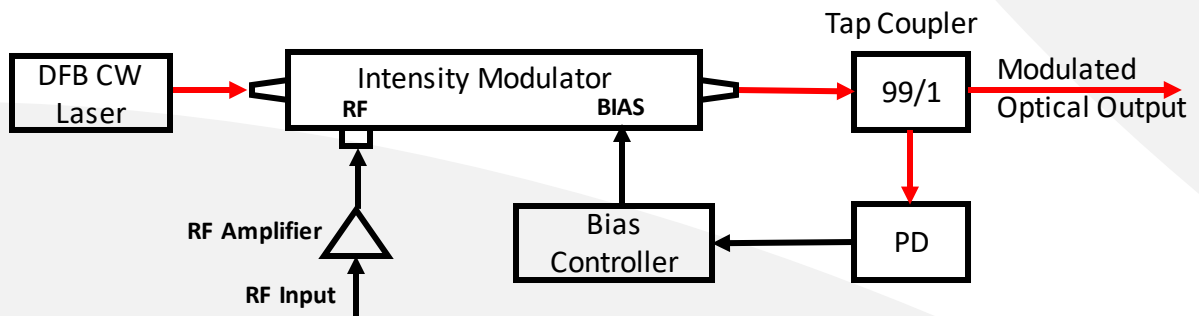
ORDERING OPTIONS

IMP-1310-20-PM-XXX

XXX HER: High Extinction Ratio, ≥ 30 dB

LIL: Low Insertion Loss, ≤ 3.5 dB

Application Diagram



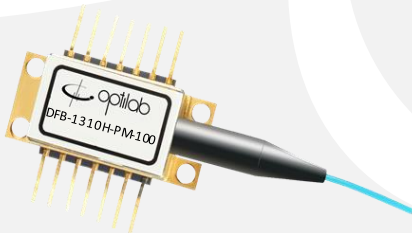
Related Product

- **BCB-4**



The Optilab BCB-4 is a compact automatic bias control board fully compatible with IMP-1310-20-PM modulator.

- **DFB Laser Source**



The Optilab DFB-1310A-PM laser is a 1310 nm CW DFB laser diode with polarization maintaining output up to 200 mW. It is often used as the seed laser for IMP-1310-20-PM modulator. This laser is also available in other CWDM wavelength 1270 nm, 1290 nm and 1330 nm.

