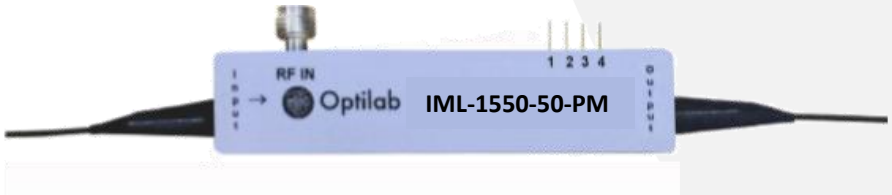
IML-1550-50-PM



DEVICE

1550 nm, 50 GHz Analog Modulator w/ PM output

OVERVIEW

The Optilab IM-1550-50-PM Intensity Modulator is designed for analog modulation of up to 50 GHz for microwave links, antenna remoting, and RF over Fiber. It is a high linearity, low driving voltage lithium niobite mach zehnder interferometer (MZI) design. It is a hands-on bias-stabilized lithium modulator that proves to be extremely stable for long periods of time, and features excellent stability in a biased circuit, operating from 1525 nm to 1610 nm. It has an excellent operating temperature tolerance ranging from -30 °C to +60 °C, and its low insertion loss provides for its maximum transmission power. The IM-1550-50-PM uses a Polarization Maintaining (PM) input and output fiber, and features separate RF and bias ports. Contact Optilab for more information.

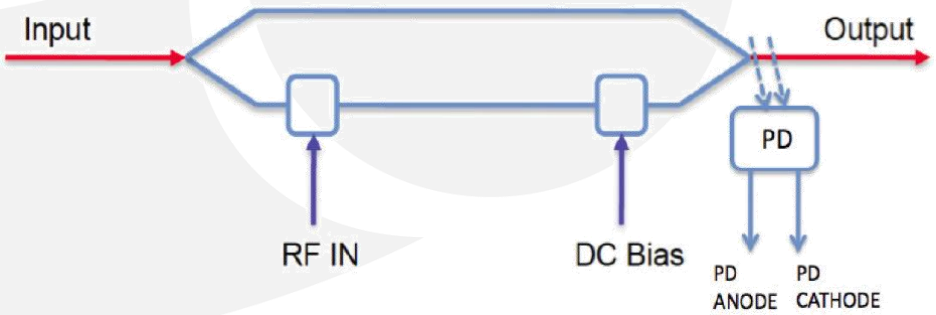
FEATURES

- > 50 GHz operational bandwidth
- 1525 nm to 1610 nm wavelength
- Low drive voltage
- Built in photodiode
- Integrated polarization
- Excellent stability in a biased circuit

APPLICATIONS

- 50 GHz RF over Fiber
- Antenna remoting
- High frequency fiber optic Links
- Instrumentation
- Microwave link
- Active mode-locked laser

FUNCTIONAL DIAGRAM



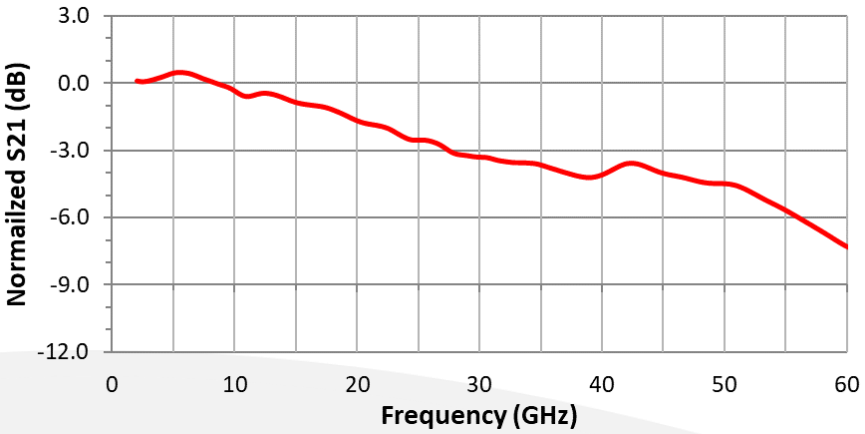
IML-1550-50-PM

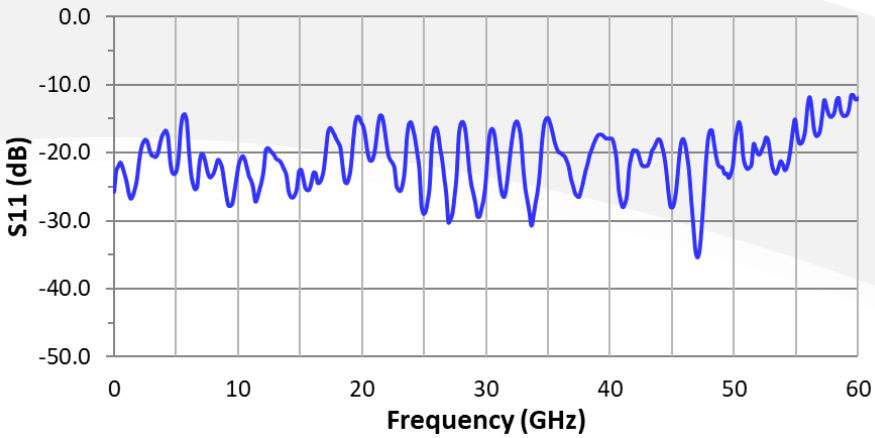
SPECIFICATIONS

GENERAL	
Input Optical Power	100 mW max.
Operating Wavelength	1525 to 1610 nm
Chirp Value	<± 0.2 (zero chirp design)
Insertion Loss	4 dB typ., 4.5 dB max.
Extinction Ratio	≥ 25 dB, ≥30 dB (HE Version)
Optical Return Loss	≤ -45 dB
S21 Bandwidth (RF Port)	27 GHz typ. @ -3 dB, 55 GHz typ. @ -6 dB
S11 Return Loss (RF Port)	≤ -10 dB
Vπ (RF Port)	3.0 V typ. @ 10 GHz; 5.5 V typ. @ 50 GHz
RF Input Power	27 dBm max.
Impedance (RF Port)	50 Ω typ.
S21 Bandwidth (Bias Port)	500 MHz typ.
Vπ (Bias Port)	≤ 2 V @ 1 KHz
Impedance (Bias Port)	> 1 MΩ
PD Responsivity	40 – 100 mA/W typ.
ANOLOG LINK PERFORMANCE	
IIP3 @7 GHz	23 dBm typ.
1 dB Compression Point @10 GHz	9 dBm typ.
MECHANICAL	
Operating Temperature (standard)	-30 °C to +60 °C
Operating Temperature (TQ version)	-55 °C to +75 °C
Storage Temperature	-60 °C to +90 °C
Operating Humidity	0% to 90% Relative Humidity
Input/Output Fiber Type	PANDA – PM 1550
Input/Output Connector	PM FC/APC or PM FC/UPC
Waveguide Process	Ti-indiffused
Bias Port Connector	2 PINS
TAP PD Connector	2 PINS
RF Port connectors	V Connector
Cabling	900 µm tubing
Dimensions	72 mm x 16 mm x 7 mm

IML-1550-50-PM

TYPICAL S21 AND S11 CHARACTERISTICS



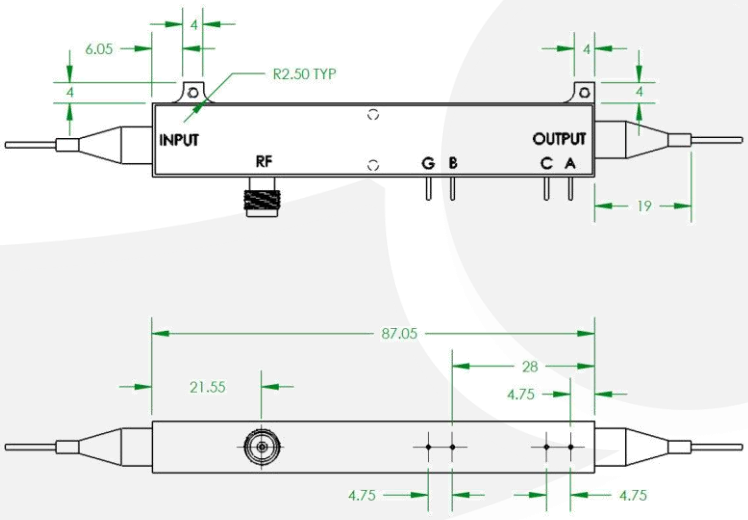


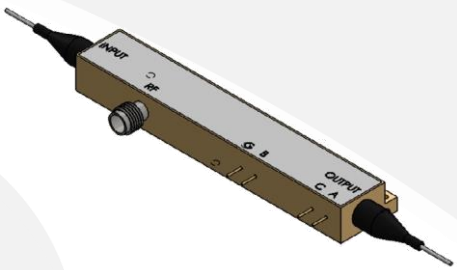
OPTIONS

IML-1550-50-PM

XX	**HE:** High Extinction Ratio **TQ:** Temperature Qualified
y	Connector Type: a, FC/APC; u, FC/UPC

MECHANICAL DRAWING





Pin #	Description
G	GND
B	DC BIAS
A	PD ANODE
C	PD CATHODE