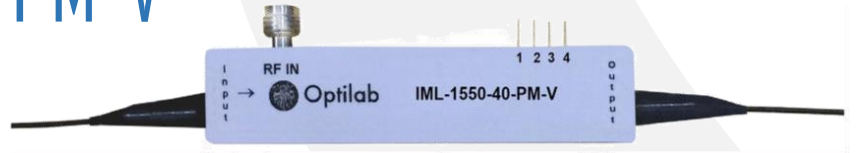


IML-1550-40-PM-V



DEVICE

1550 nm, 40 GHz Analog Modulator, PM Output, V Connectors

OVERVIEW

The Optilab IML-1550-40-PM-V Intensity Modulator is designed for analog modulation of up to 40 GHz for microwave links, antenna remoting, and RF over Fiber. It is a high linearity, low driving voltage lithium niobate mach zehnder interferometer (MZI) design. It is a 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 IML-1550-40-PM-V uses a Polarization Maintaining (PM) input and output fiber, and features separate RF and bias ports. Contact Optilab for more information.

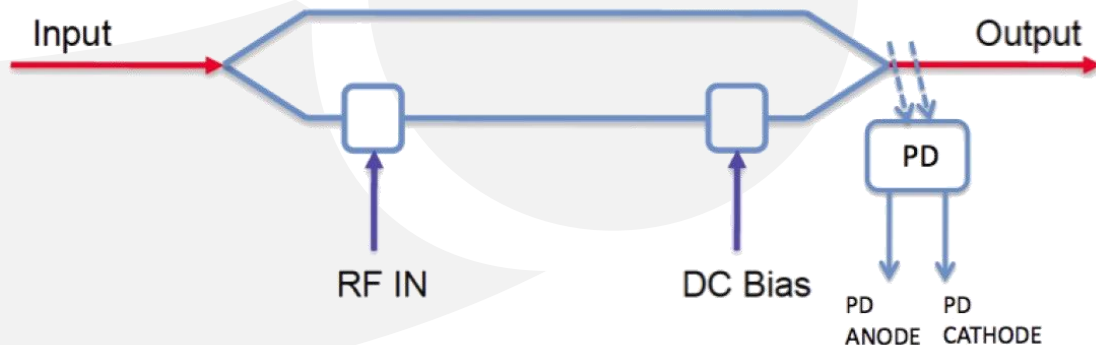
FEATURES

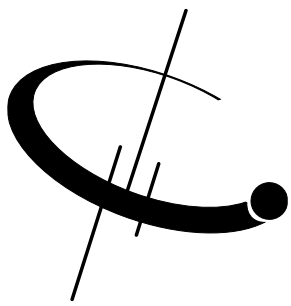
- 3 dB bandwidth of 30 GHz
- Excellent stability in a biased circuit
- Low Drive Voltage of 2.0 V
- 1525nm to 1610nm range wavelength
- Zero chirp design
- Built in photodiode
- Customizable options:
 - High Extinction Ratio (<30 dB)
 - Temperature Qualified (-55°C to +75 °C)

USE IN

- 40 GHz RF over Fiber (RfOF)
- Antenna remoting
- High frequency fiber optic links
- Delay Lines Telemetry Systems
- Instrumentation
- 43 Gb/s digital link
- Active mode-locked laser

FUNCTIONAL DIAGRAM





IML-1550-40-PM-V

SPECIFICATIONS

Input Optical Power	100 mW max. available
Operating Wavelength	1525 to 1610 nm
Chirp Value	$< \pm 0.2$ (zero chirp design)
Insertion Loss	4 dB typ., 4.5 dB max.
Extinction Ratio	≥ 23 dB min., ≥ 30 dB (HE Version)
Optical Return Loss	≤ -45 dB
S21 Bandwidth (RF Port)	30 GHz typ. @ -3 dB
S11 Return Loss (RF Port)	≤ -8 dB @ 30 GHz
V π (RF Port)	3.0 V typ. @ low frequency, 3.0 V typ. @10 GHz, 4.5 V typ. @ 30 GHz
RF Input Power	27 dBm max.
Impedance (RF Port)	50 Ω typ.
V π (Bias Port)	≤ 2 V @ 1 KHz
PD Responsivity	40-100 mA/W typ.

GENERAL

ANALOG LINK PERFORMANCE

IIP3 @ 7 GHz	23 dBm typ.
1 dB Compression Point @ 10 GHz	9 dBm typ.

MECHANICAL

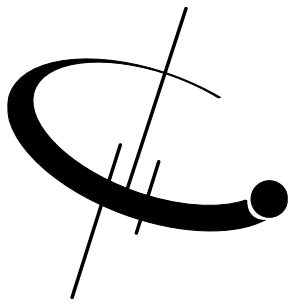
Operating Temperature (Standard)	-30°C to +60 °C
Operating Temperature (TQ Version)	-55°C to +75 °C
Storage Temperature	-60 °C to +90 °C
Operating Humidity	0% to 90% Relative Humidity
Input/Output Fiber Type	PANDA – PM 1550
Crystal Orientation	X-cut, y-propagating
Waveguide Process	Ti-indiffused
Input/Output Connector	PM FC/APC, Customized is available
Bias Port Connector	2 PINS (Pin 1, 2)
TAP PD Connector	2 PINS (Pin 3, 4)
RF Port Connector	V Connector
Cabling	900 μ m
Dimensions	71mm x 16mm x 7mm

OPTIONS

IML-1550-40-PM-V-xx

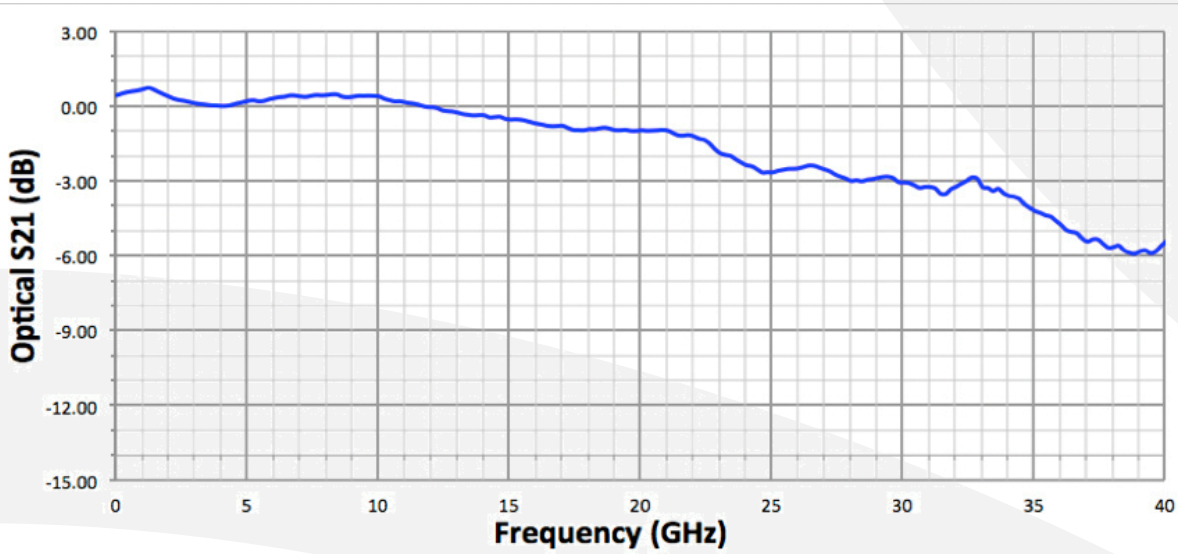
HE: High Extinction Ratio
xx **TQ:** Temperature Qualified



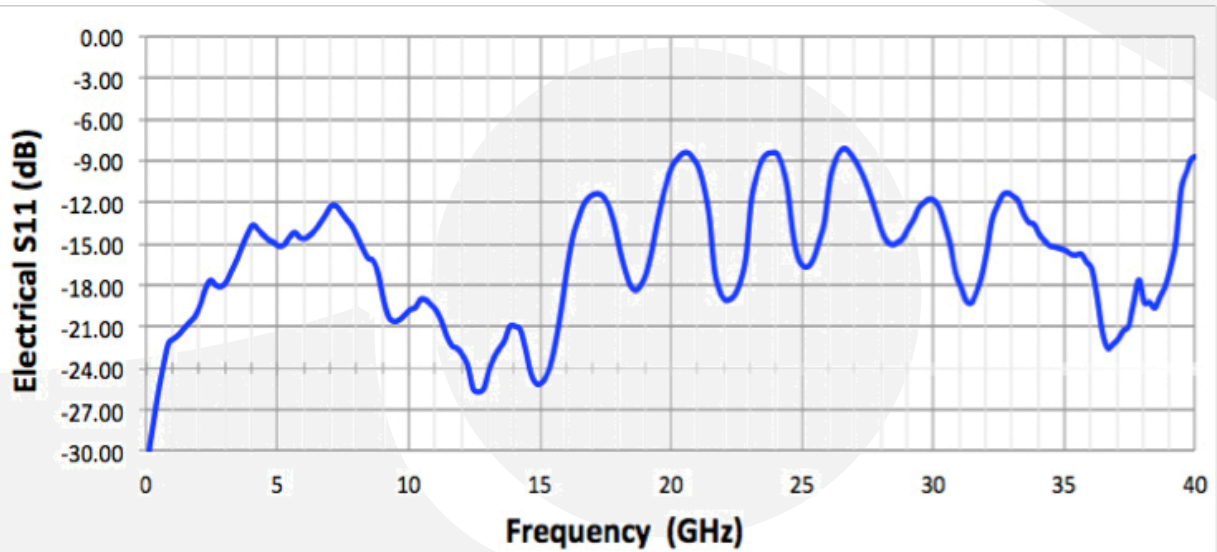


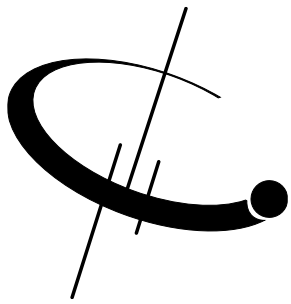
IML-1550-40-PM-V

TYPICAL S21 BANDWIDTH



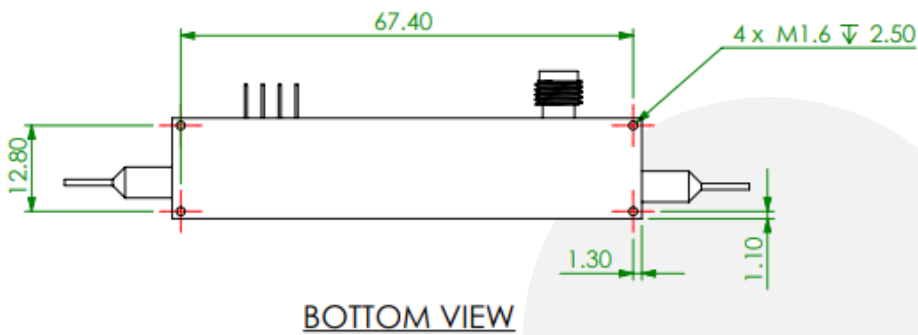
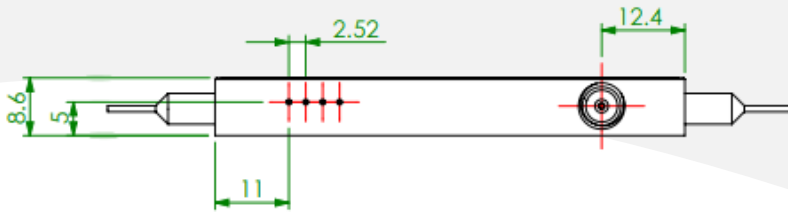
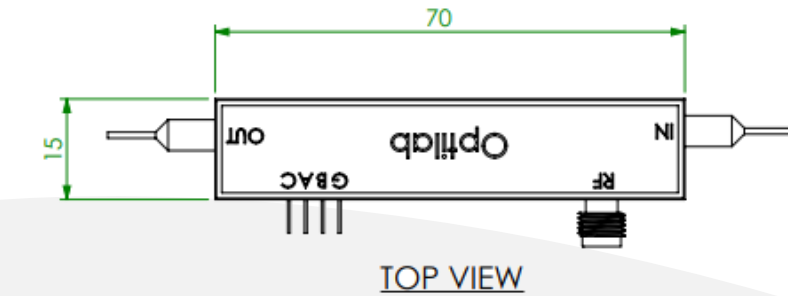
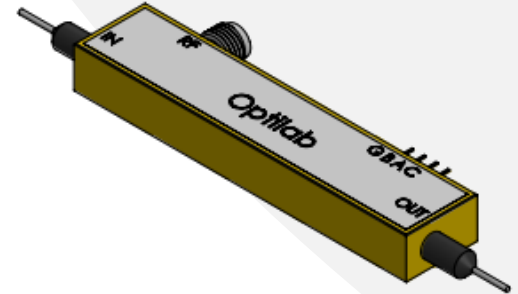
TYPICAL S11 BANDWIDTH





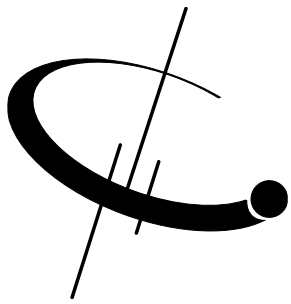
IML-1550-40-PM-V

MECHANICAL DRAWING



PINOUT	
PIN	DESCRIPTION
G	GROUND
B	DC BIAS
A	PD ANODE
C	PD CATHODE

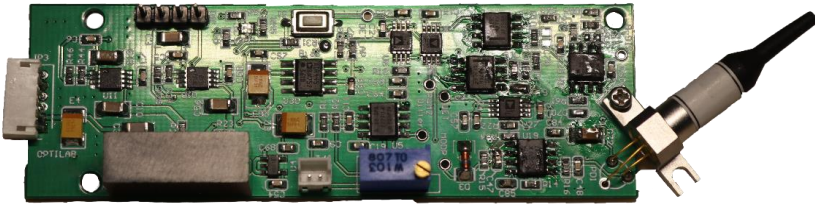




IML-1550-40-PM-V

Available Accessories

- **BCB-4**



The Optilab BCB-4 is a compact bias control board designed to maintain the linear operating point of optical intensity modulators.

