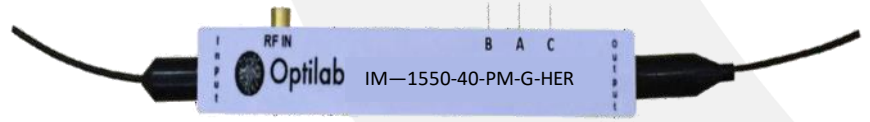


# IML-1550-40-PM-G-HER



## DEVICE

## 1550 nm, 40 GHz Intensity Modulator, PM Output, GPPO Connectors, High Extinction Ratio

## OVERVIEW

The Optilab IML-1550-40-PM-G-HER Intensity Modulator is designed for analog modulation of up to 40 GHz for satellite links, antenna remoting, and RF over Fiber. It is an ultra low drive voltage lithium modulator with excellent stability in a biased circuit, operating from 1530 nm to 1610 nm. It has an operating temperature tolerance ranging from -30 °C to +60 °C. With low insertion loss, and ultra low RF drive voltage, IML-1550-40-PM-G-HER provides optical transmission performance for analog modulation system. The IML-1550-40-PM-G-HER features a GPPO connector for RF input and three lead pins for bias input, built in PD for bias monitoring, and photodiode (Anode and Cathode). Contact Optilab for more information.

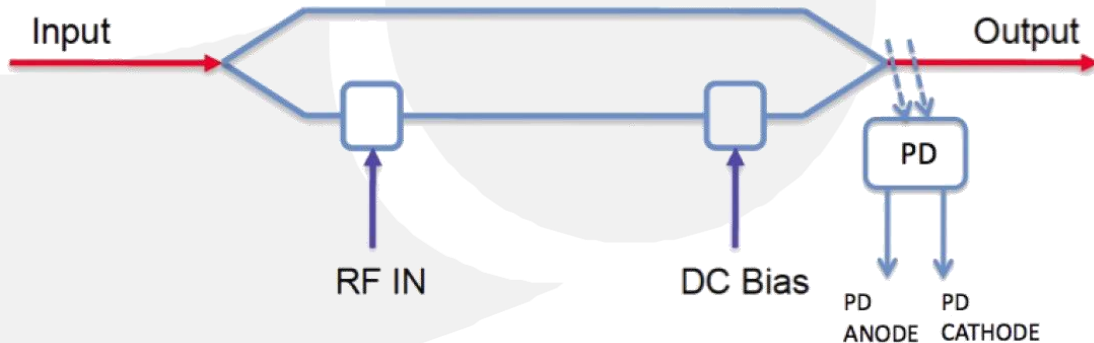
## FEATURES

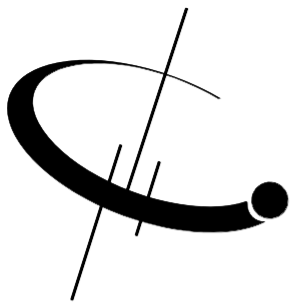
- Excellent stability in a biased circuit
- 1530 nm to 1610 nm range wavelength
- Ultra low drive voltage 2.0 V
- Low insertion loss < 4.5 dB
- Zero chirp design
- Built in monitor photodiode
- Customizable Options:
- High Extinction Ratio (>30 dB)
- Temperature Qualified (-55 °C to +75 °C)

## USE IN

- 40 GHz RF over Fiber (RfOfF)
- 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-G-HER

## SPECIFICATIONS

Input Optical Power	100 mW max. available
Operating Wavelength	1530 to 1610 nm
Chirp Value	< ± 0.2 (zero chirp design)
Insertion Loss	4.5 dB typ., 5 dB max.
Extinction Ratio	≥ 30 dB min.
Optical Return Loss	≤ -45 dB
S21 Bandwidth (RF Port)	30 GHz typ.
S11 Return Loss (RF Port)	≤ -10 dB @ up to 40 GHz
V $\pi$ (RF Port)	3.0V typ. @ low frequency, 3.0V typ. @ 10 GHz, 4.3V typ. @ 30 GHz
RF Input Power	27 dBm max.
V $\pi$ (Bias Port)	< 2 V @ 1 KHz
PD Responsivity	0.05 ± 0.02 mA/mW

## GENERAL

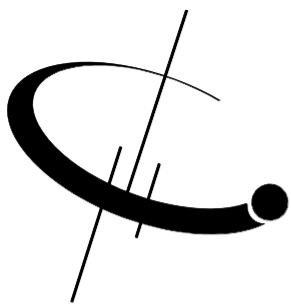
## ANALOG LINK PERFORMANCE

IIP3 @ 7 GHz	25 dBm typ.
1 dB Compression Point @ 10 GHz	8.0 dBm typ.

## MECHANICAL

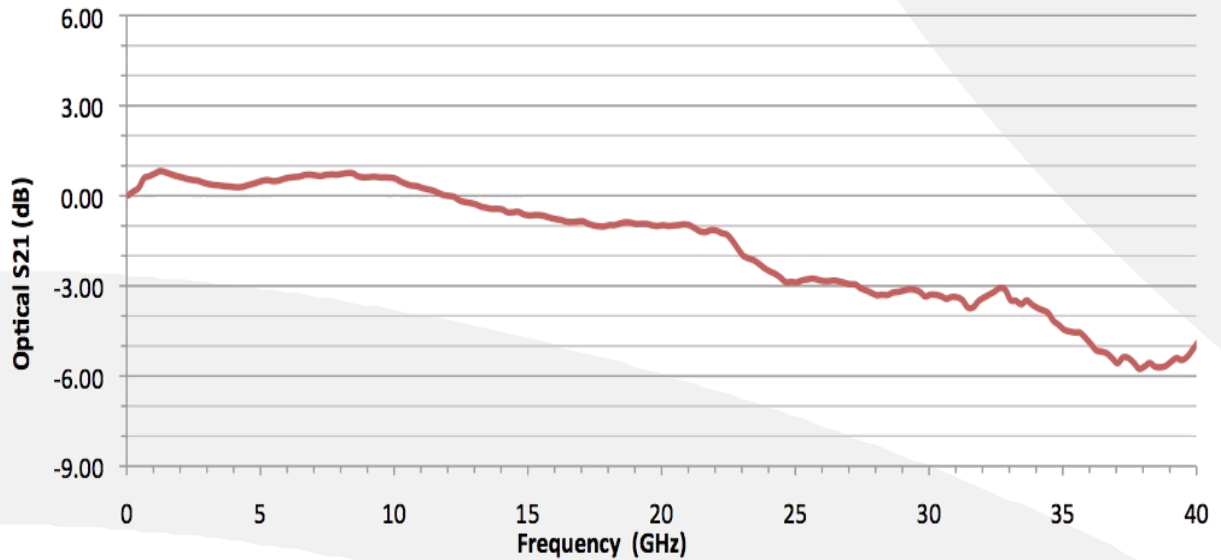
Operating Temperature	-30 °C to +60 °C
Storage Temperature	-60 °C to +90 °C
Operating Humidity	0% to 90% Relative Humidity
Input/Output Fiber Type	PANDA - PM
Input/Output Connector	PM FC/APC, or other type
Material	LiNbO3
Crystal Orientation	X-cut, y-propagating
Waveguide Process	Ti-indiffused
Bias Port Connector	Single Lead Pin
PD Monitor Port	2 Lead Pin
RF Port Connector	GPPD
Cabling	900 $\mu$ m tubing
Dimensions	70mm x 10mm x 7mm





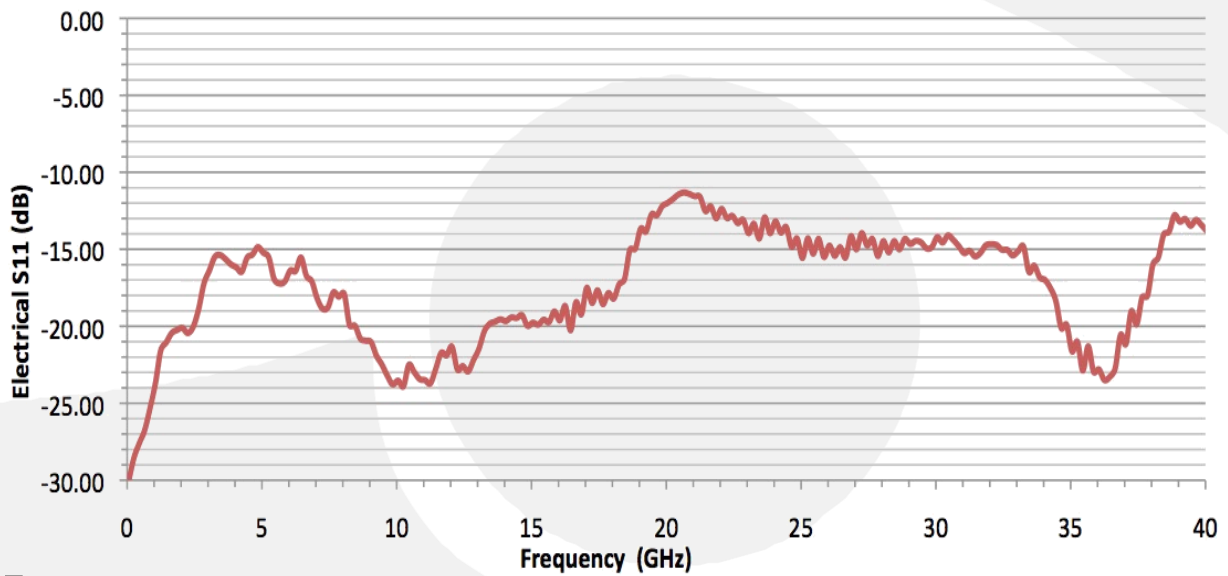
# IML-1550-40-PM-G-HER

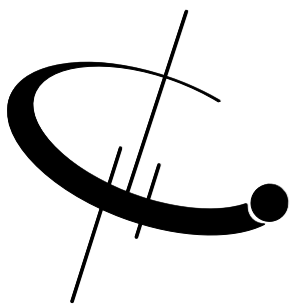
TYPICAL S21 BANDWIDTH



## IML-1550-40-PM-G

TYPICAL S11 BANDWIDTH





# IML-1550-40-PM-G-HER

## 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.

