IM-1550-20-P

DEVICE

1550 nm, 20 GHz Intensity Modulator, DC Bias Pin Option

OVERVIEW

The Optilab IM-1550-20-P Intensity Modulator is designed for TDM and WDM 20 Gb/s transmission and can also be incorporated for analog modulation of up to 20 GHz for satellite links, antenna remoting, and RF over Fiber. 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 1530 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-1550-20-P uses a Polarization Maintaining (PM) input fiber and a Single Mode (SM) output fiber. It features separate RF and bias ports. Contact Optilab for more information.

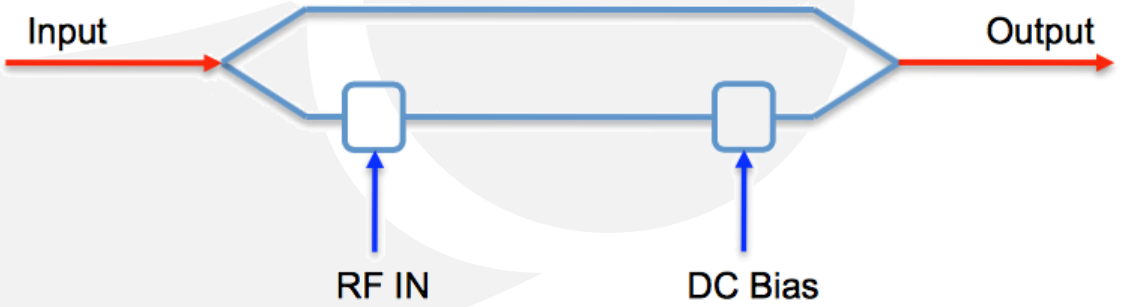
FEATURES

- Low insertion loss
- DC Bias Pin Option
- Useful bandwidth up to 20 GHz
- Excellent stability in biased circuit
- 1530 nm to 1610 nm operating wavelength
- Wide operating temp. range (-30°C to +60°C)

USE IN

- Satellite Link
- Antenna remote
- RF over fiber
- TDM and WDM up to 15 Gb/s
- Analog transmission up to 20 GHz

FUNCTIONAL DIAGRAM



IM-1550-20-P

SPECIFICATIONS

GENERAL

Input Optical Power	100 mW max. available
Operating Wavelength	1530 nm to 1610 nm
Chirp Value	< ± 0.2 (zero chirp design)
Insertion Loss	< 5 dB max.
Extinction Ratio	> 25 dB min.
Optical Return Loss	< -45 dB
PRBS Electrical Drive Voltage	6.0 Vpp typ.
S21 Bandwidth	Up to 20 GHz
S11 Return Loss	< 10 dB @ 10 GHz
Vπ (RF Port)	6.6 V typ. @ 10 GHz
RF Input Power	27 dBm max.
Impedance (RF Port)	50 Ω typ.
S21 Bandwidth (Bias Port)	500 MHz min.
Vπ (DC Port)	6.5V typ., < 8V @ DC
Impedance (Bias Port)	> 1 MΩ

ANALOG LINK PERFORMANCE

IIP3 @ 7 GHz	32 dBm typ.
1 dB Compression Point @ 10 GHz	16 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 Fiber Type	PANDA - PM
Output Fiber Type	SMF-28
Input Connector	PM FC/APC, PM FC/UPC
Output Connector	FC/APC, FC/UPC
Material	LiNbO3
Crystal Orientation	X-cut, y-propagating
Waveguide Process	Ti-indiffused
Bias Port Connector	Pin
RF Port Connectors	K type (compatible w/ SMA)
Cabling	900 um tubing
Dimensions	3.783" x 0.981" x 0.640"

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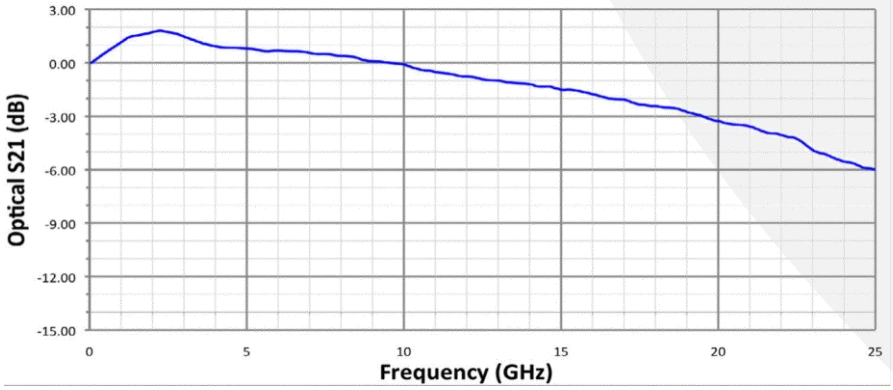
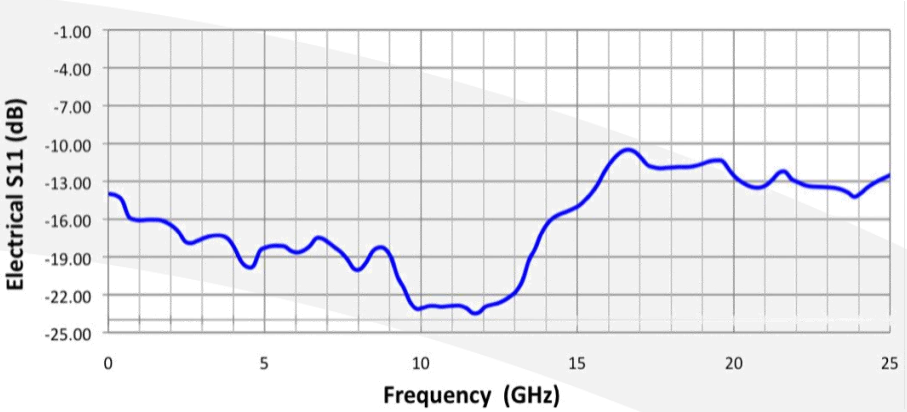
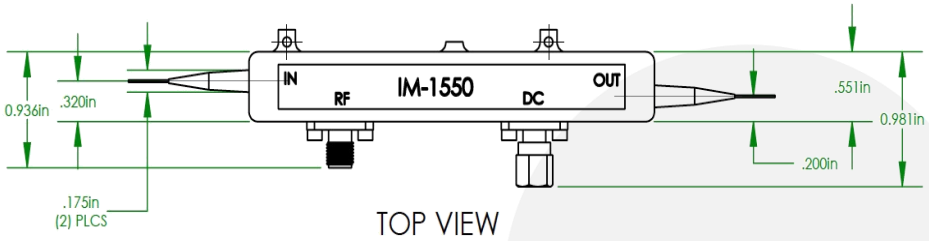
TYPICAL S21 AND S11 BANDWIDTH

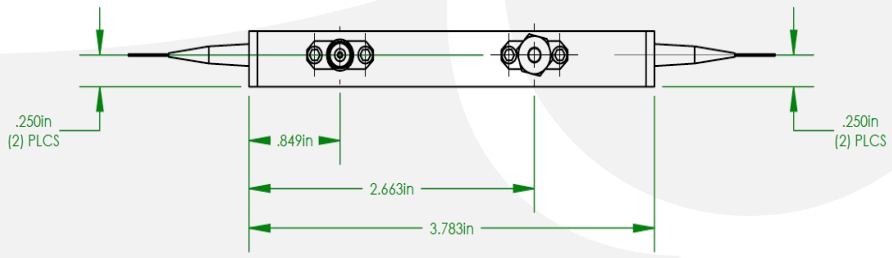




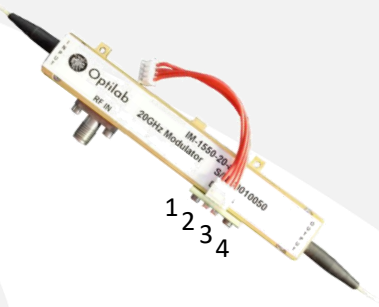
MECHANICAL DRAWING



TOP VIEW



FRONT VIEW



PIN #	Symbol
1	Bias
2	Bias
3	GND
4	GND

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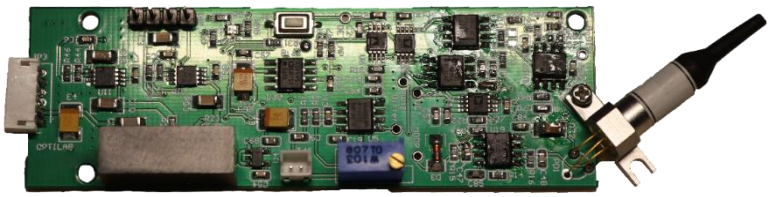
Available Accessories

- **BCB-4**



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