



# IMC-1550-20-LD



## DEVICE

## 1550 nm, 20 GHz Low Drive Compact Intensity Modulator

## OVERVIEW

The Optilab IMC-1550-20-LD Intensity Modulator is designed for TDM and WDM up to 25 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 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, low drive voltage requirements, and superior insertion loss provides for its maximum transmission power. The IMC-1550-20-LD uses a Polarization Maintaining (PM) input fiber and a Single Mode (SM) output fiber. It features separate RF and bias ports, GPO 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.

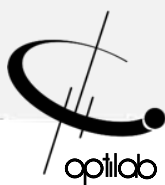
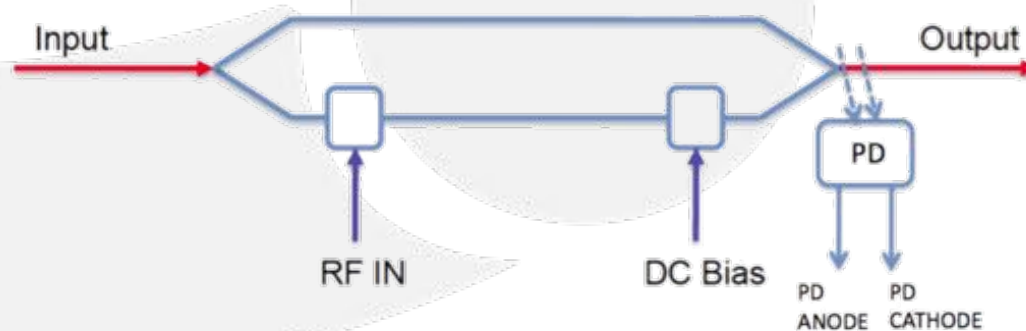
## FEATURES

- Excellent stability in a biased circuit
- 1530 nm to 1610 nm operating wavelength
- Low insertion loss < 4.5 dB
- Low drive voltage < 4 V @ low frequency
- Useful bandwidth up to 20 GHz
- PM output fiber available
- Built in monitor PD
- Wide operating temp range of -30 °C to +60 °C, extended range available

## USE IN

- TDM and WDM up to 25 Gb/s
- Analog Transmission up to 20 GHz
- Satellite Link
- Antenna Remote
- RF over Fiber

## FUNCTIONAL DIAGRAM





# IMC-1550-20-LD

## SPECIFICATIONS

## GENERAL

## MECHANICAL

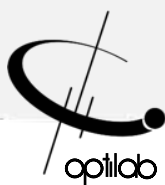
## OPTIONS

Input Optical Power	100 mW max. available
Operating Wavelength	1530 to 1610 nm
Chirp Value	±0.7
Insertion Loss	4.0 dB typ., 4.5 dB max.
Extinction Ratio	≥ 25 dB min.
Optical Return Loss	≤ -45 dB
S21 Bandwidth (RF Port)	20 GHz typ., 15 GHz min.
S11 Return Loss (RF Port)	≤ -10 dB @ 10 GHz
V $\pi$ (RF Port)	5.5 V typ. @ 10 GHz
RF Input Power	27 dBm max.
V $\pi$ (Bias Port)	< 4 V @ DC
Impedance (Bias Port)	> 1 M $\Omega$
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 Fiber Type	PANDA - PM
Output Fiber Type	SMF-28e
Input Connector	PM FC/APC, PM FC/UPC
Output Fiber Type	FC/APC, FC/UPC
Material	LiNbO3
Crystal Orientation	Z-cut, y-propagating
Waveguide Process	Ti-indiffused
Bias Port Connector	2 Pin electrode
RF Port Connectors	GPO
Cabling	900 $\mu$ m tubing
Dimensions	2.56" x 0.45" x 0.19"

### IMC-1550-20-LD-XX-y

**XX** TQ: Temperature Qualified

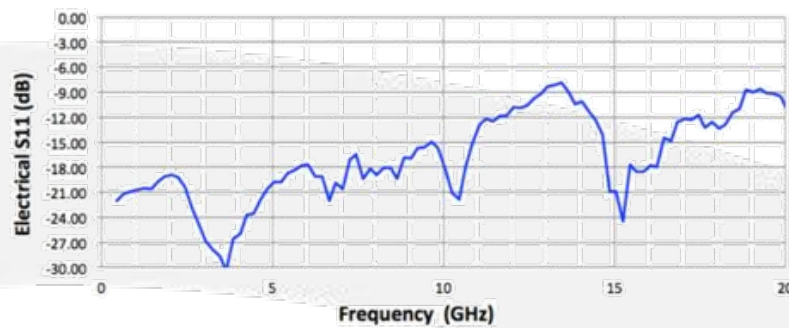
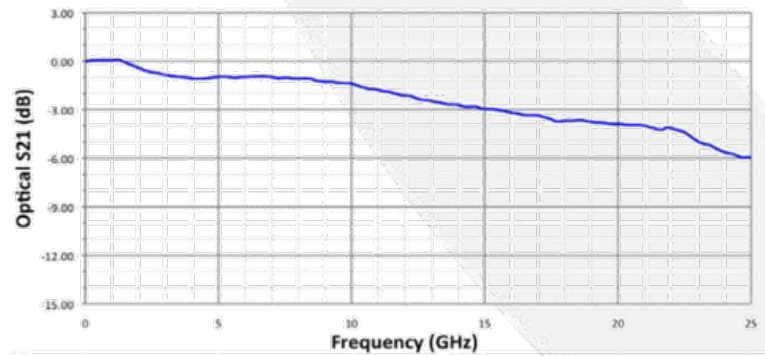
**Y** Connector Type: a, FC/APC; u, FC/UPC



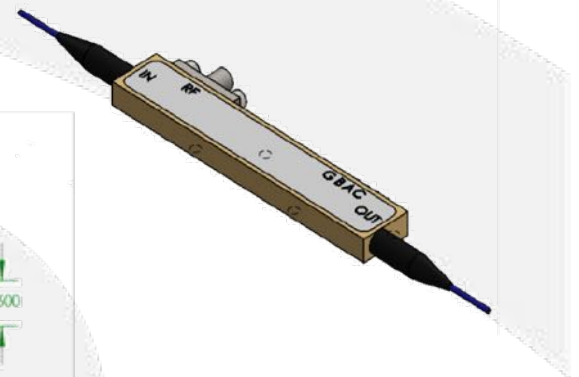
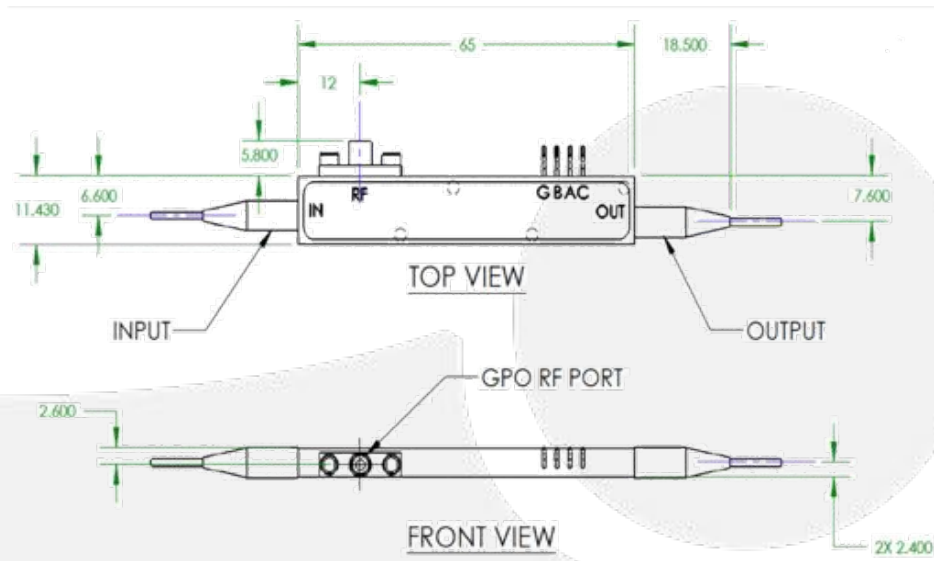


# IMC-1550-20-LD

## TYPICAL S21 AND S11 BANDWIDTH



## MECHANICAL DRAWING



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

