



# IMC-1550-20-PM



DEVICE **1550 nm, 20 GHz Low Drive Compact Intensity Modulator, PM Output**

## OVERVIEW

The Optilab IMC-1550-20-PM 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, and superior insertion loss provides for its maximum transmission power. The IMC-1550-20-PM uses a Polarization Maintaining (PM) input and output fiber, and features separate RF and bias ports. Contact Optilab for more information.

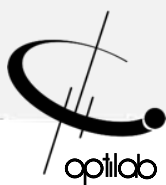
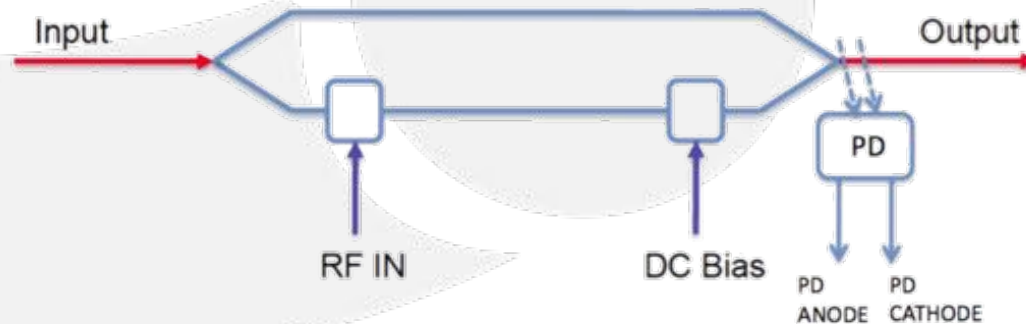
## FEATURES

- Excellent stability in a biased circuit
- Polarization Maintaining output
- 1530 nm to 1610 nm operating wavelength
- Low insertion loss
- Useful bandwidth up to 20 GHz
- 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
- Active mode laser

## FUNCTIONAL DIAGRAM





# IMC-1550-20-PM

## SPECIFICATIONS

Input Optical Power	100 mW max. available
Operating Wavelength	1530 to 1610 nm
Chirp Value	< ± 0.2 (zero chirp design)
Insertion Loss	4.0 dB typ., 4.5 dB max.
Extinction Ratio	≥ 25 dB min.
Optical Return Loss	≤ -45 dB

## GENERAL

S21 Bandwidth (RF Port)	20 GHz typ., 15 GHz min.
S11 Return Loss (RF Port)	< -10 dB @ 10 GHz
V $\pi$ (RF Port)	6.0 V typ. @ 10 GHz
RF Input Power	27 dBm max.
Impedance (RF Port)	50 $\Omega$ typ.
V $\pi$ (Bias Port)	< 5 V @ DC
Impedance (Bias Port)	20 mA/W min., 30 mA/W typ.

## ANALOG LINK PERFORMANCE

IIP3 @ 7 GHz	29 dBm
1 dB Compression Point @ 10 GHz	14.5 dBm typ.

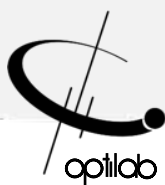
## MECHANICAL

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
Input/Output Connector	PM FC/APC, PM FC/UPC
Material	LiNbO3
Crystal Orientation	X-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"

## OPTIONS

**IMC-1550-20-PM-XX**

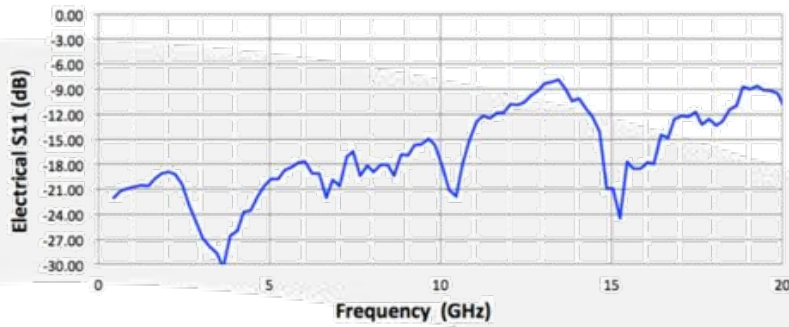
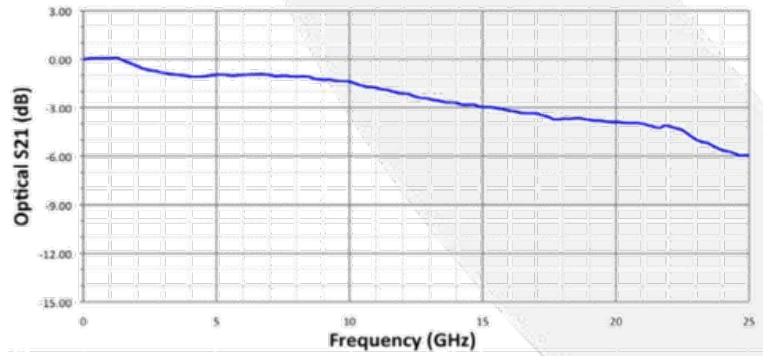
**XX TQ:** Temperature Qualified



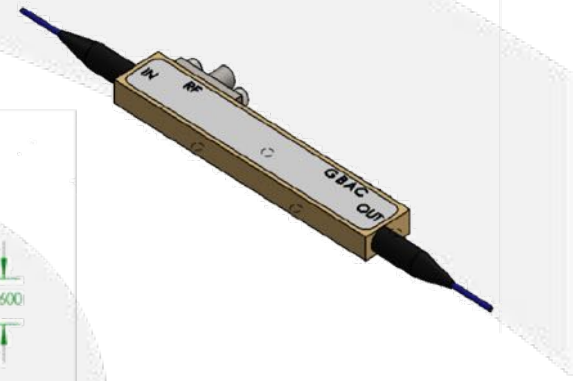
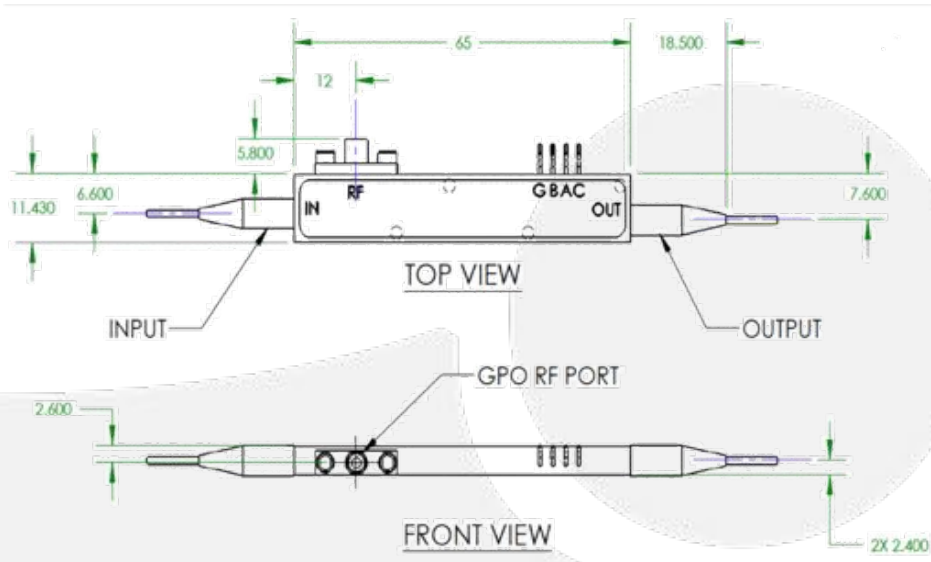


# IMC-1550-20-PM

## TYPICAL S21 AND S11 BANDWIDTH



## MECHANICAL DRAWING



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

