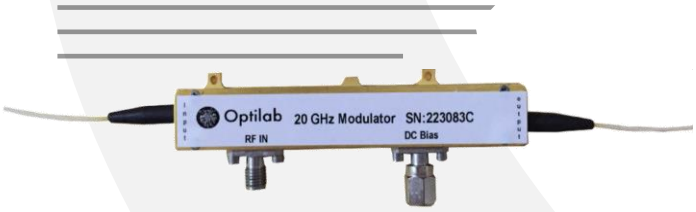
IM-1550-20-TQ



DEVICE

1550nm, 20 GHz Intensity Modulator, Temp. Qualified

OVERVIEW

The Optilab IM-1550-20-TQ 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, antennae 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 -55 oC to +80 oC, and its low insertion loss provides for its maximum transmission power. The IM-1550-20-TQ 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.

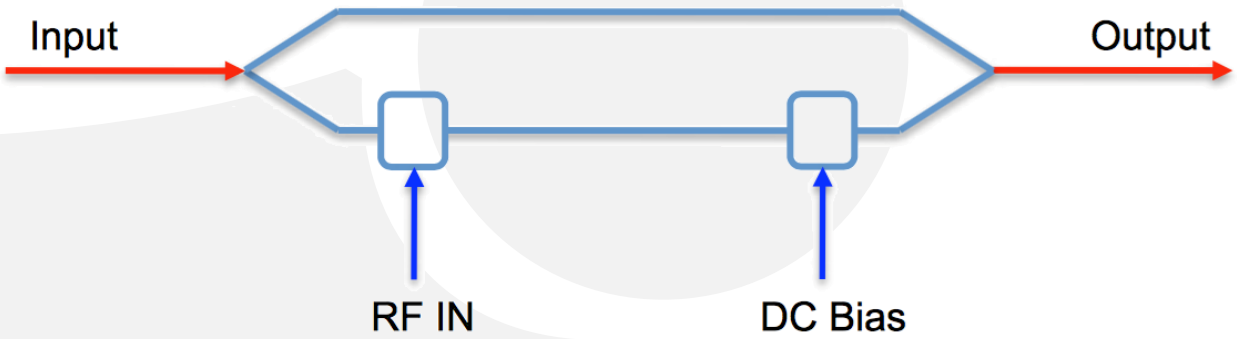
FEATURES

- Excellent stability in a biased circuit
- 1530 nm to 1610 nm operating wavelength
- Wide operating temp: -55°C to +80°C
- Low insertion loss
- Useful bandwidth up to 20 GHz

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



IM-1550-20-TQ

SPECIFICATIONS

GENERAL

Input Optical Power	100 mW max. available
Operational Wavelength	1530 to 1610 nm
Chirp Value	< ± 0.2 (zero chirp design)
Insertion Loss	≤ 5.0 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
V π (RF Port)	≤ 5.7 V typ. @ DC
RF Input Power	27 dBm max.
Impedance (RF Port)	50 Ω typ.
S21 Bandwidth (Bias Port)	500 MHz typ.
Vπ (DC Port)	6.5V typ., < 8V @ DC
Impedance	> 1 M Ω

ANALOG LINK PERFORMANCE

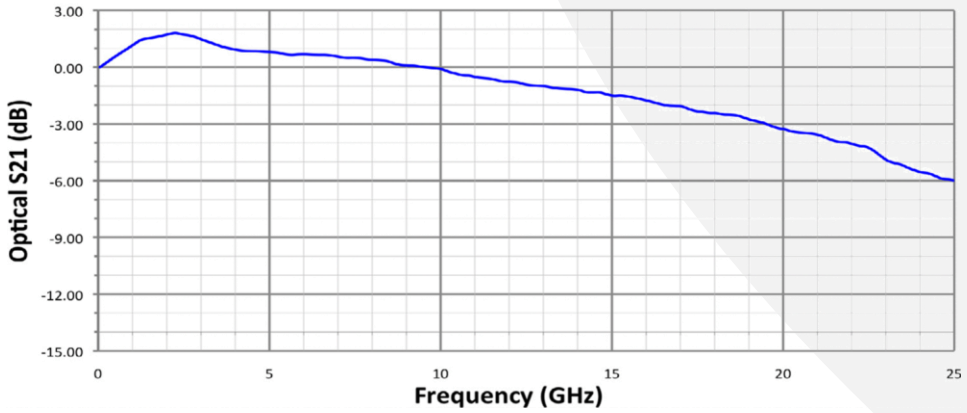
IIP3 @ 7 GHz	32 dBm typ.
1 dB Compression Point @ 10 GHz	16 dBm typ.

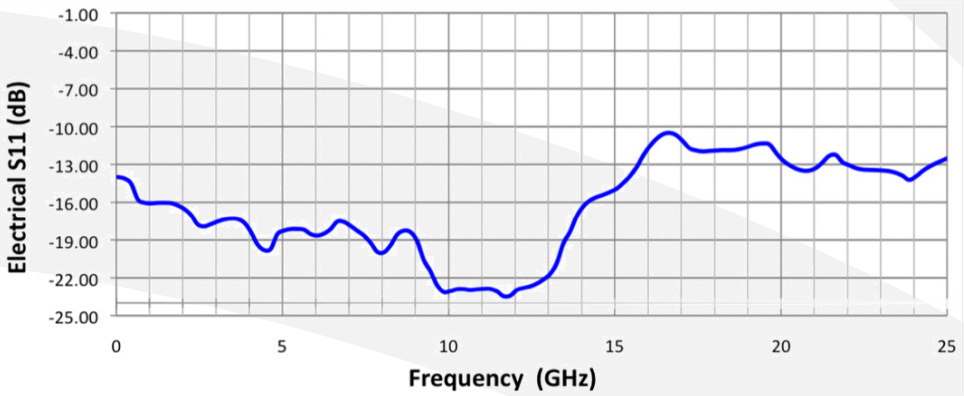
MECHANICAL

Operating Temperature	-55°C to +80°C
Storage Temperature	-60°C to +85°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	SMA
RF Port Connectors	K type (compatible w/ SMA)
Cabling	900 um tubing
Dimensions	3.783" x 0.981" x 0.64"

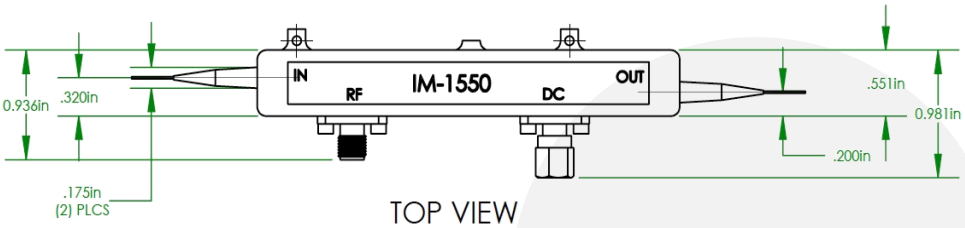
IM-1550-20-TQ

TYPICAL S21 AND
S11 BANDWIDTH

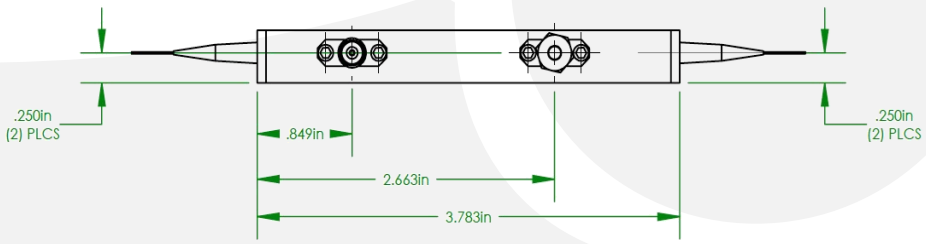


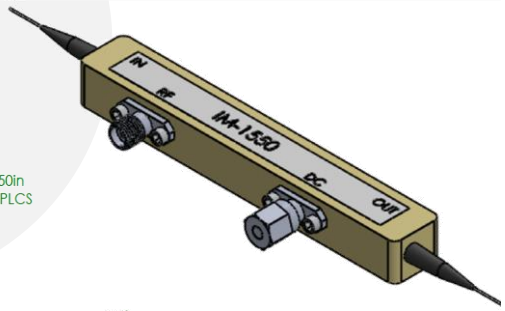


MECHANICAL DRAWING



TOP VIEW





FRONT VIEW

IM-1550-20-TQ

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.