

LTC-1310-20



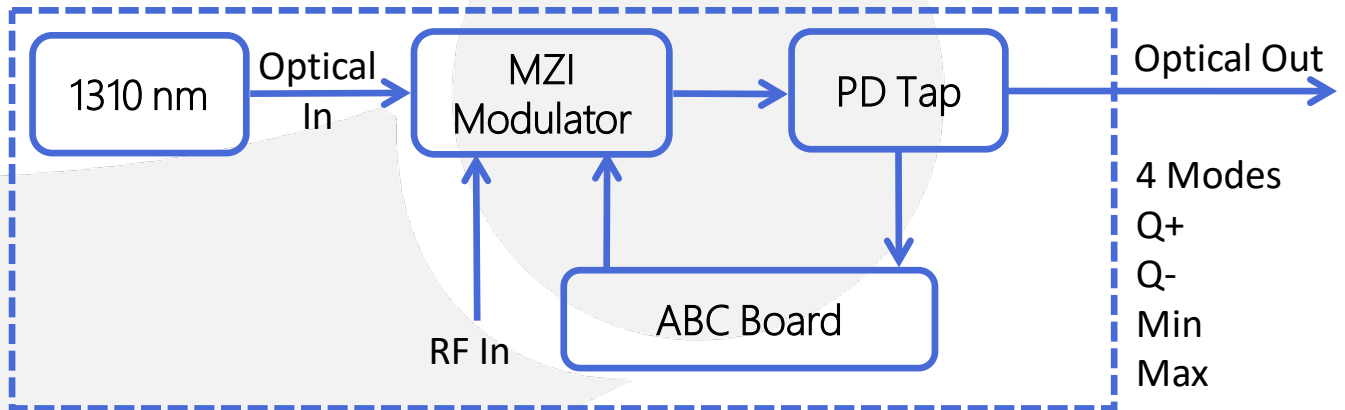
DEVICE 20 GHz, 1310 nm Lightwave Transmitter Modulator for RFoF

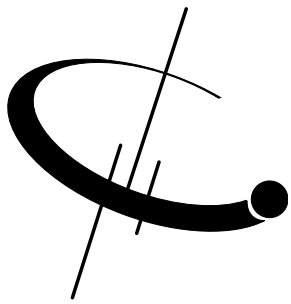
OVERVIEW The Optilab LTC-1310-20 is a 1310 nm low noise lightwave transmitter modulator designed for analog photonics applications from 10 MHz to 20 GHz. This unit includes a 18 GHz optical intensity modulator and an Automatic Bias Control (ABC) board with four different operating modes. The external laser source can be any polarization maintaining device, such as tunable laser, narrow linewidth laser, making it a versatile solution for RFoF system integration. Contact Optilab for more information.

- FEATURES**
- 1310 nm Wavelength Range, 1270 nm, 1290 nm, 1330 nm Available
 - 18 GHz S21 Bandwidth Modulator
 - Automatic Bias Control w/4 Mode Operation
 - Internal DFB Laser up to 100 mW
 - Zero Dispersion Operation
 - Low Drive Voltage
 - PM Output Available
 - High Extinction Ratio (> 30 dB)
 - Temp. Qualified (-55°C to +75°C)

- USE IN**
- Sub-nanosecond Pulse Generation
 - Optical Communications to 25 Gb/s
 - 20 GHz RFoF Transmission
 - Analog Photonics
 - RF/IF Signal Distribution
 - Satellite Communication

FUNCTION DIAGRAM





LTC-1310-20

SPECIFICATIONS

Operating Wavelength	1270 nm to 1330 nm
Laser Source	1310 nm Standard, 1270 nm, 1290 nm, 1330 nm Available;
Laser Power Level	40 mW, 60 mW, 80 mW, 100mW
RF Return Loss	> 15 dB @ 10 GHz; > 10 dB @ 20 GHz
Impedance	50 Ω
Operating Frequency Range	10 MHz to 20 GHz
Input RF Voltage	27 dBm max.
Optical Output Level	7 dBm, 9 dBm, 10 dBm Available
S21 Bandwidth	3 dB, 18 GHz typ.
Modulator Bias Mode	4 Automatic Bias Control Modes, Selectable by Software
Extinction Ratio	25 dB typ.; > 30 dB (HE Versions)
Modulator Voltage V_{PI}	4 V typ. @ 100 KHz; 6 V typ. @ 10 GHz

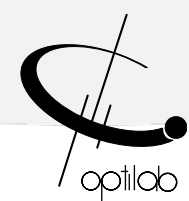
GENERAL

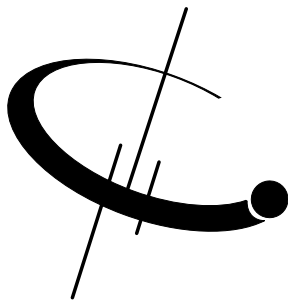
Operating Temperature (Standard)	-30 °C to +60 °C
Operating Temperature (TQ Version)	-55 °C to +75 °C
Storage Temperature	-60 °C to +90 °C
Power Supply Requirements	AC Power Cord
Optical Connector	FC/APC
Fiber Type	SMF-28 Output; PANDA Output (PM Version)
Alignment	Slow Axis
RF Input Connector	K Connector
Power Connector	4 Pin Molex
Remote Control	USB 2.0 Software Included
Alarm	LED Bias Mode Status
Dimensions	206 mm x 102.4 mm x 31.5 mm

MECHANICAL

Mode	Operation Conditions
Q+	Set to quadrature point of positive slope for linear analog modulation
Q-	Set to quadrature point of negative slope for linear analog modulation
Min.	Set to min. point of operation for pulse generation or digital modulation
Max.	Set to max. point of operation for pulse generation or digital modulation

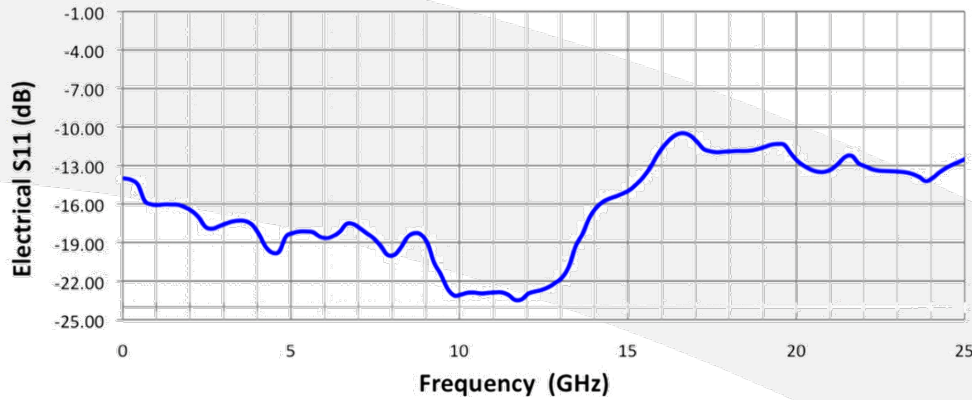
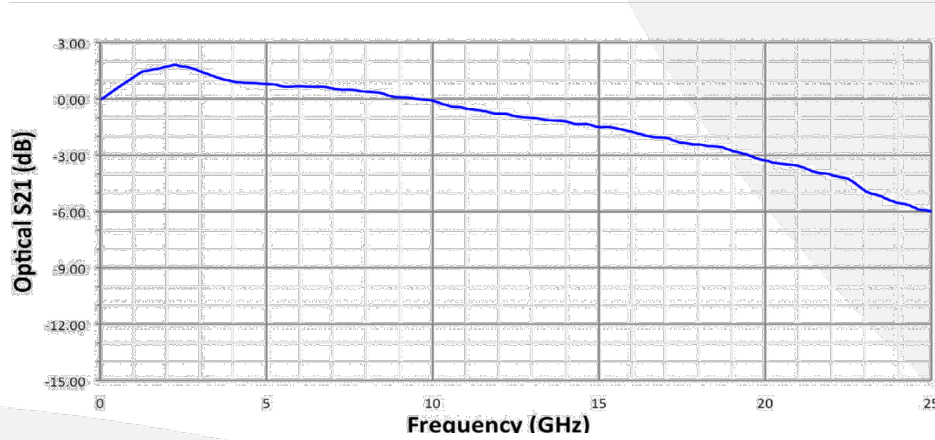
BIAS CONTROL MODE





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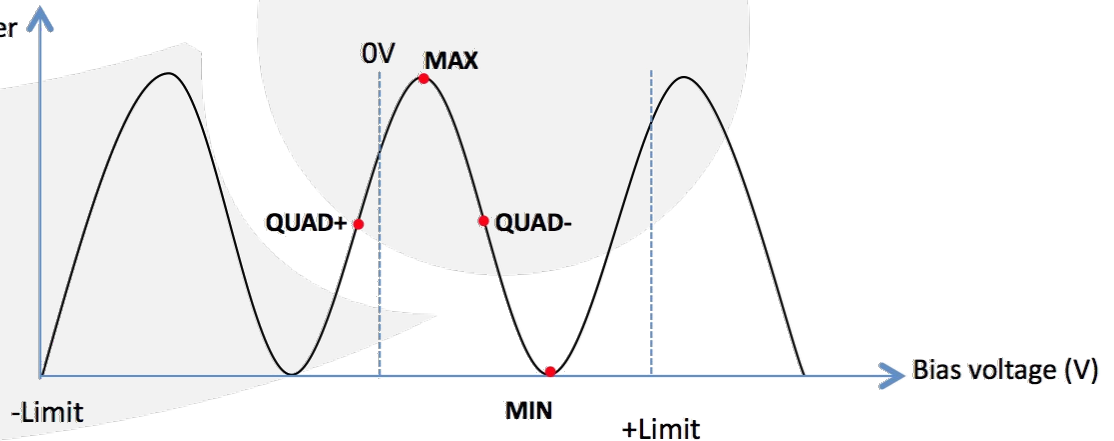
TYPICAL S21 AND S11 BANDWIDTH

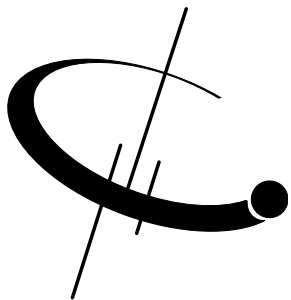


BIAS SETTING MODES FOR LTB

Based on sophisticated phase measurement of this small dither signal, LTC-1310-20 provides four selectable operating modes: quadrature (Quad +), inverted quadrature (Quad -), minimum (Min), or maximum (Max) points.

Optical output power (mW)





LTC-1310-20

ORDERING OPTIONS

LTC-XXXX-20-YY-ZZ

XXXX Wavelength: 1270 nm, 1290 nm, 1310 nm, 1330 nm

YY PM: Polarization Maintaining
HE: High Extinction Ratio

ZZ DC: DC +/- 5V Power Supply (Option 1)
AC: AC 100/240 VAC (Option 2)

Option 1 : DC +/- 5V



Option 2 : 100/240 VAC

