



LTB-12-VOA



DEVICE

12 GHz Lightwave Transmitter w/ Variable Optical Attenuator

OVERVIEW

The LTB-12-VOA is a Versatile Lightwave Transmitter with an integrated Variable Optical Attenuator (VOA) designed for analog photonics applications from 2 GHz to 15 GHz. This unit features a built in VOA for optical output power balancing, ideal for multichannel DWDM networks for intuitive gain balancing. This unit includes a narrow linewidth DFB laser, an optical intensity modulator, and an Automatic Bias Control (ABC) board. Contact Optilab for more information.

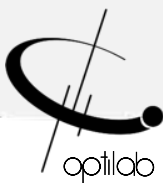
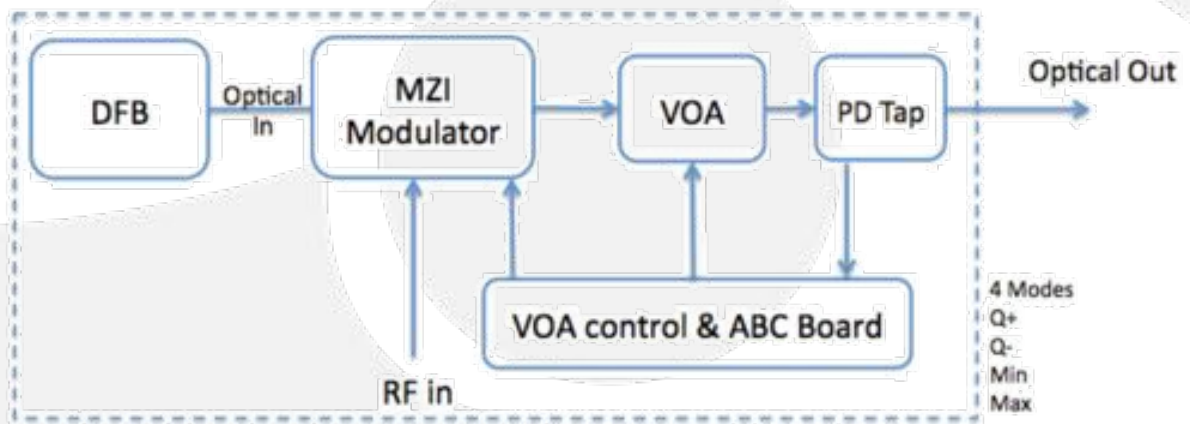
FEATURES

- Built in VOA
- Internal DFB laser
- Remote access Via USB
- Up to 15 GHz operating range
- 10 dB attenuation range
- Automatic Bias, Q+ mode or 4 modes

USE IN

- Analog photonics
- DWDM Network
- Satellite Communication
- Optical communications to 15 Gb/s
- Sub-nanosecond pulse generation
- 15 GHz RFoF transmission

FUNCTIONAL DIAGRAM





LTB-12-VOA

SPECIFICATIONS

Operating Wavelength	1520 nm to 1560 nm
Laser Source	Internal DFB laser, 1550 nm ± 10 nm, or customized
Laser Power Level	20 mW typ.
RF Return Loss	> 10 dB @ 10 GHz, > 10 dB @ 12 GHz
Impedance	50Ω
Operating Frequency Range	2 GHz to 15 GHz
Input RF Voltage	27 dBm max.
Optical Output Level	5 dBm min.
Modulator Bias Mode	Q+ mode standard, 4 automatic bias control modes (optional)
Modulator Voltage V_{PI}	7 V typ. @ 10 GHz

GENERAL

VARIABLE OPTICAL ATTENUATOR

Range	10 dBm min.
Step Attenuator	0.01 dB resolution

ANALOG LINK PERFORMANCE

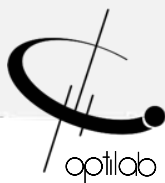
IIP3 @ 7 GHz	32 dBm typ.
1 dB Compression Point @ 10 GHz	16 dBm typ.

MECHANICAL

Operating Temperature	-30 °C to +60 °C
Storage Temperature	-60 °C to +90 °C
Power Supply Requirements	± 5 V, 1A typ.
Optical Connectors	FC/APC
Fiber Type	SMF-28 output
RF Input Connector	SMA female connector
Power Connector	4 Pin Molex
Remote Control	USB 2.0 software included
Alarm	LED bias mode status

ORDERING OPTIONS

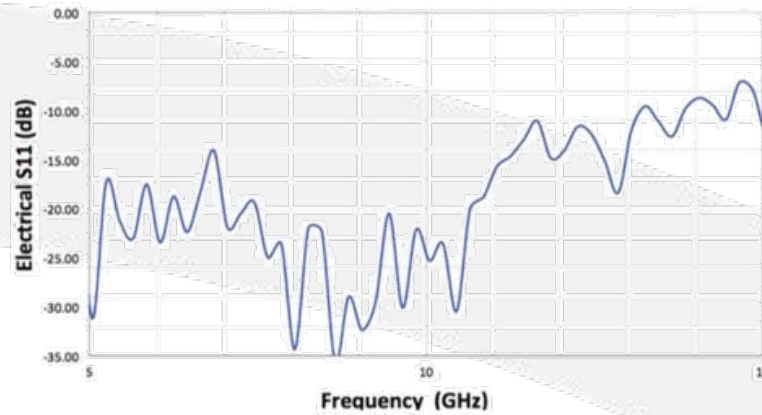
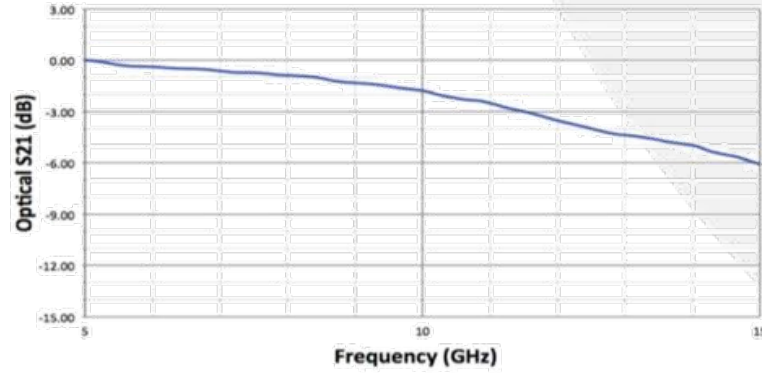
LTB-12-VOA-X
X 1: Q+ bias mode only, 4: 4 bias modes





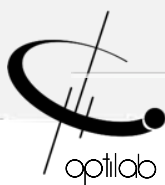
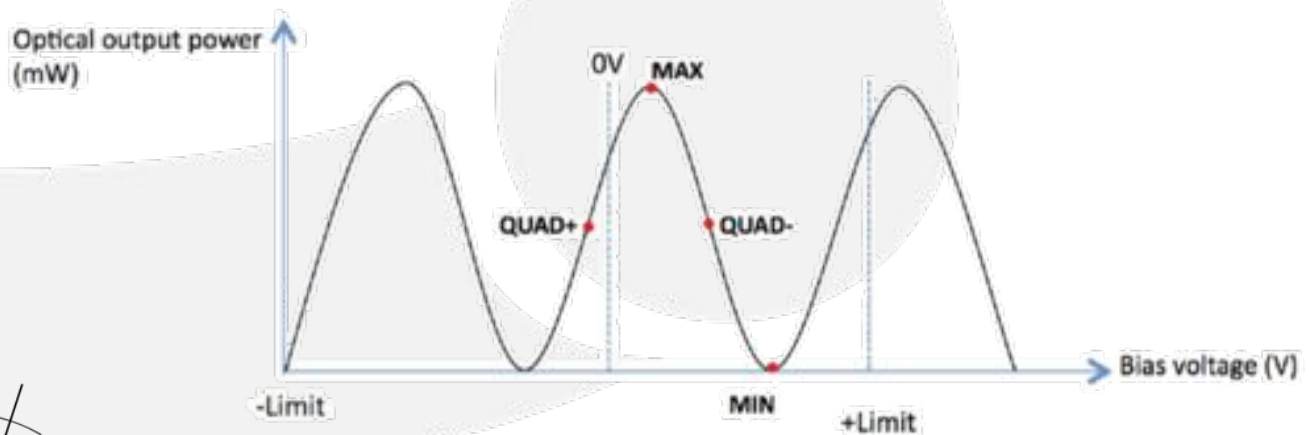
LTB-12-VOA

TYPICAL S21 AND S11 BANDWIDTH



BIAS SETTING MODES FOR LTB

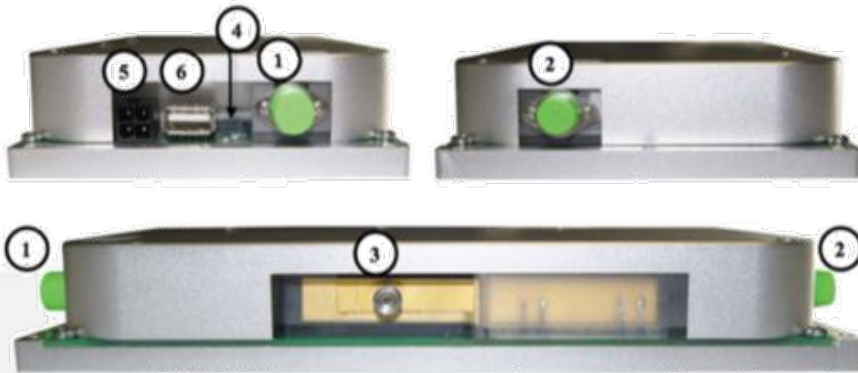
Based on sophisticated phase measurement of this small dither signal, LTB-12-VOA can provide four selectable operating modes: quadrature (Quad+), inverted quadrature (Quad-), minimum (Min), or maximum (Max) points.





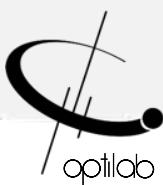
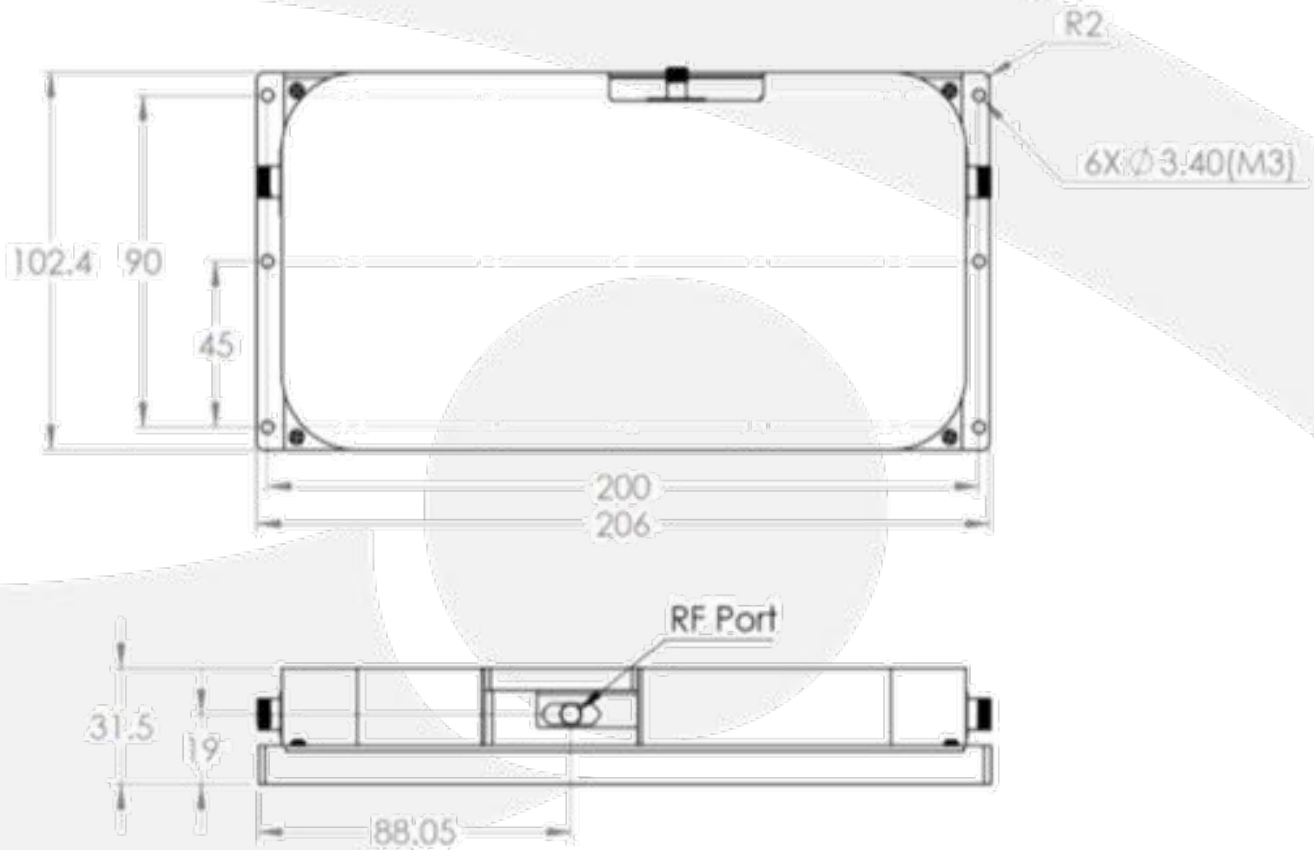
LTB-12-VOA

DETAILED LAYOUT



No.	Feature
1	NC
2	Optical Output Port
3	RF Input Port
4	LED Indicators
5	DC Connection Port
6	USB Control and Monitor Port

MECHANICAL DRAWING





LTB-12-VOA

PRECISION POWER SUPPLY FOR LTB (OPTIONAL)



FRONT



BACK

General Specifications	
Parameters	Specifications
Input AC Voltage (VAC)	85-240
Input AC Current (A)	≤0.5
Input AC Frequency (HZ)	50-60
Transfer Efficiency	≤85%
DC Output Current (A)	4 A max.
DC Output Voltage (V)	±5 V
DC Voltage Ripple	≤2%
DC Connectors	Molex 4 Pin
Communication Connectors	DB-9 and USB 2.0
Dimensions (mm)	153x115x33

