

# MD-50E-M



## 50 GHz EA Modulator Driver/RF Amplifier

### DEVICE

The Optilab MD-50E-M Modulator Driver (MD) is a 50 GHz two-stage RF Amplifier in a user-friendly module that provides a high-quality, single-ended voltage to drive an Electro-Absorption(EA) optical modulator. Typical applications include driving EML, EAM, and Mach-Zehnder devices, and it can also be used as a wide band RF amplifier with useable bandwidth of up to 50 Gb/s. The flat gain and group delay response yield a high quality, low-jitter electrical drive signal for digital applications. The RF gain and eye crossing level can be easily adjusted using the knobs on front panel or remotely from the USB interface. It also integrates an LCD display to show status information. Featuring a single +12V DC power and a built-in heat sink, this versatile module also has an anodized, precision-machined aluminum housing designed for efficient heat dissipation during prolonged use. In addition to its amplification function the MD-50E-M also features a manually adjustable DC bias output voltage port, to further complement its effectiveness when used with a standard EAM. Contact Optilab for more information.

### OVERVIEW

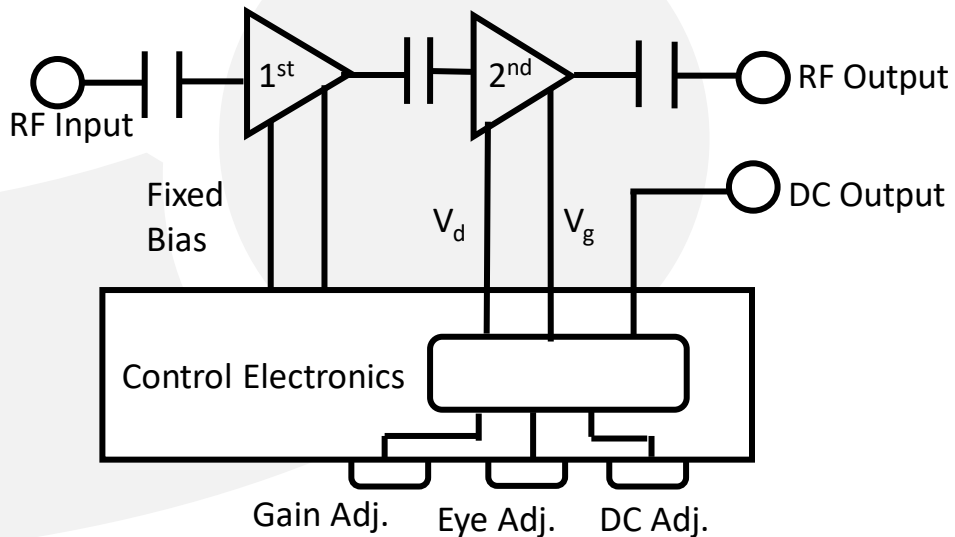
### FEATURES

- Data rates up to 50 Gb/s
- Variable Gain Control built-in
- Built in LCD display
- 3.3Vpp Output Amplitude
- 2.4 mm connectors (K optional)
- Remote control via USB

### USE IN

- 50 Gb/s digital modulation
- OC-768 SONET/SDH
- RF over Fiber Link Amplifier
- General laboratory testing

### FUNCTIONAL DIAGRAM





# MD-50E-M

## SPECIFICATIONS

### GENERAL

3 dB S21 Bandwidth	45 GHz typ.
S11 Characteristics	< -10 dB Up to 40 GHz
Saturated Output Power	> 14.5 dBm
RF Gain	20dB min. at 1GHz, adjustable
Gain Ripple	± 1.5 dB
Max RF Input Power	1 Vpp
Input, Output Impedance	50Ω
Gain Adjustment Range	15 dB typ.
Data Rate	Up to 50 Gb/s
Output Amplitude	3.3 V
Pulse Response	6 ps typ.
Added RMS Jitter	0.5 ps typ.

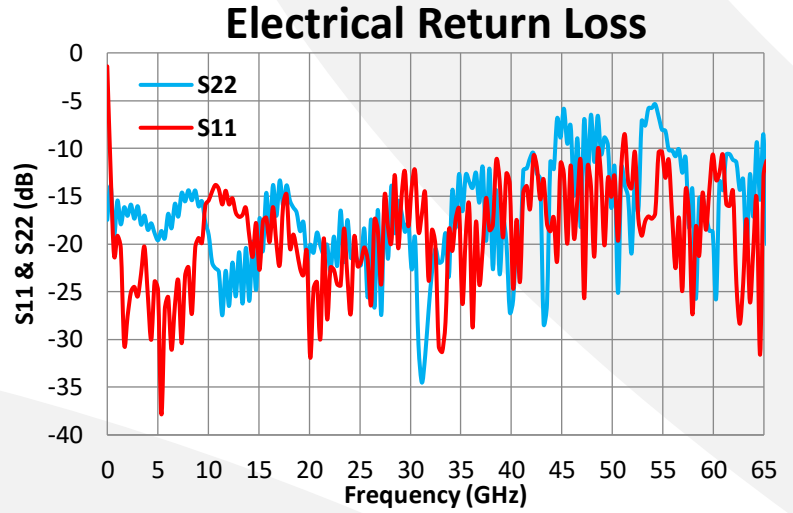
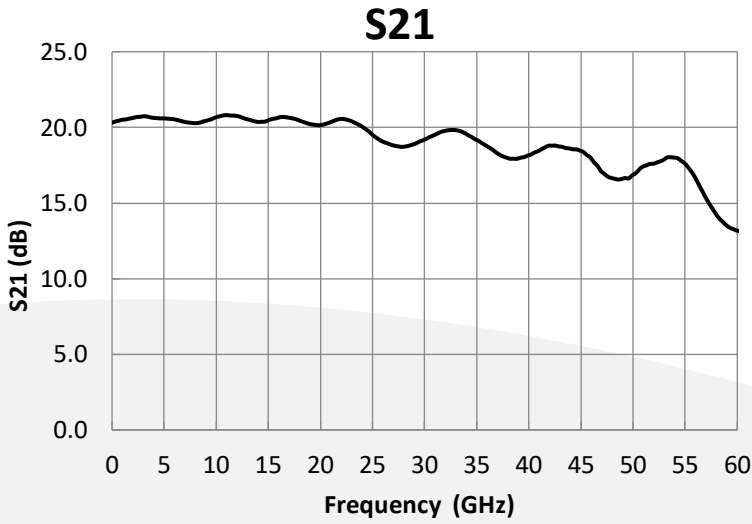
### MECHANICAL

Operating Temperature	0°C to +50°C
Storage Temperature	-40°C to +85°C
Operating Humidity	85%
Power Supply Requirements	12 V DC, 2A max.
RF Input/Output Connector	2.4 mm female (V compatible)
Electrical Power Connector	Molex 4 pin Power Cable included
Dimensions	150mm x 150mm x 30mm

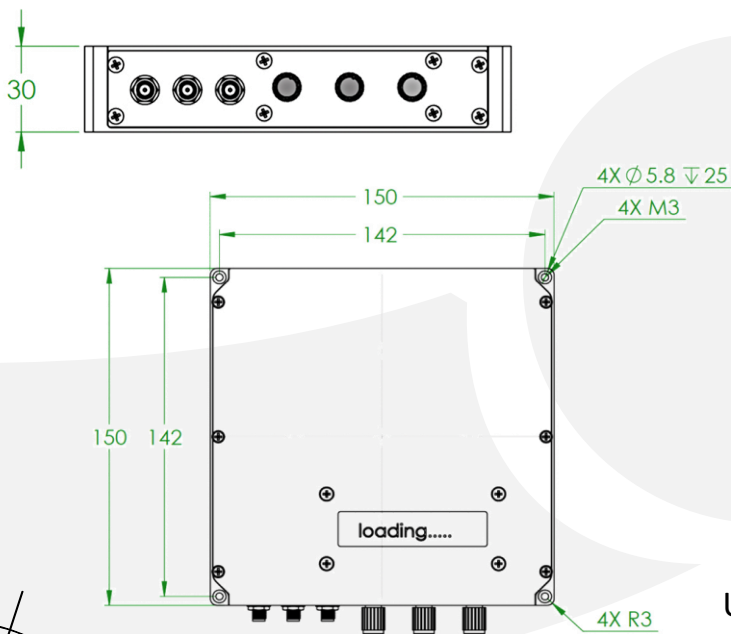




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## MECHANICAL DRAWINGS

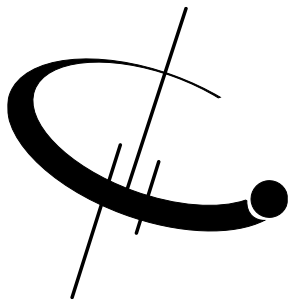


Optional 12VDC Power Supply PS-12-M



Unit: mm

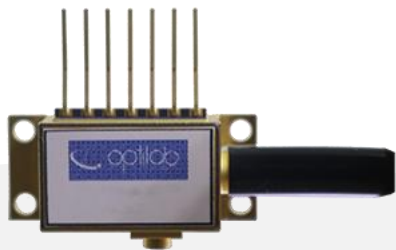




# MD-50E-M

## RELATED ITEMS

- DFB-1550-EAM-32



The Optilab DFB-1550-EAM-32 laser diode is a cost effective and compact laser solution for optical transmission applications. Contact Optilab for more information.

