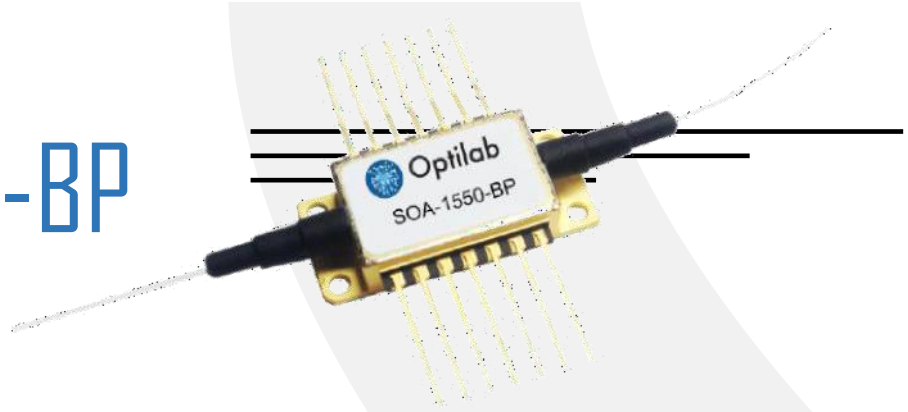


# SOA-1550-BP



## DEVICE

## 1550 nm Semiconductor Optical Amplifier, Butterfly Package

## OVERVIEW

The Optilab SOA-1550-BP is a semiconductor optical amplifier with high fiber-to-fiber gain, designed to be used in general applications to increase optical launch power to compensate for loss of other optical devices, or as a broadband ASE source. For increased utility, the SOA-1550-BP can be ordered with either Single Mode (SM) or Polarization Maintaining (PM) fiber input and output ports. The Optilab SOA-1550-BP has an operational wavelength between 1510 nm and 1590 nm, with a peak gain of a typical 20 dB within that region. The 14-pin butterfly packaging is MSA compliant and laser-welded hermetically sealed, with a thermistor and thermo-electric cooler (TEC) for ensured reliability, stability and performance.

## FEATURES

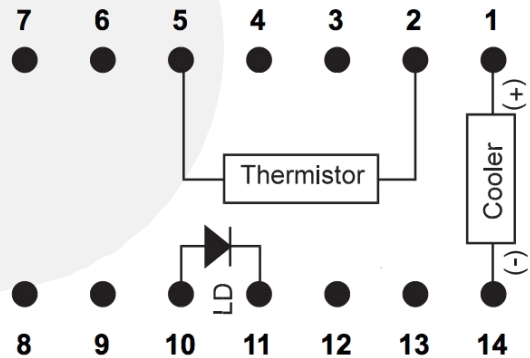
- 1510nm-1590nm operational wavelength
- High-fiber-to-fiber gain of 20 dB typ.
- Up to 14 dBm output
- Built in TEC
- 14 pin butterfly, hermetically sealed package
- PM Panda fiber input/output (optional)

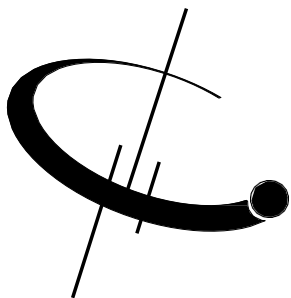
## USE IN

- Swept Fiber Laser
- Booster and in-line amplification
- General purpose test and measurement
- Optical network
- Fiber sensing

## PIN-OUT DIAGRAM

- |              |                   |
|--------------|-------------------|
| 1 TEC (+)    | 8 NC              |
| 2 Thermistor | 9 NC              |
| 3 NC         | 10 LD Anode (+)   |
| 4 NC         | 11 LD Cathode (-) |
| 5 Thermistor | 12 NC             |
| 6 NC         | 13 NC             |
| 7 NC         | 14 TEC (-)        |





# SOA-1550-BP

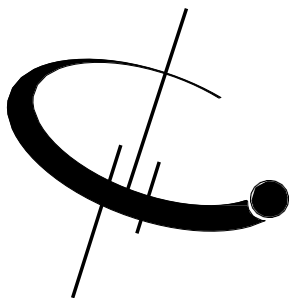
## OPERATING SPECIFICATIONS

Operational Wavelength	1510 nm – 1590 nm
Peak Gain	19 dB min., 20 dB typ.
Gain Ripple	± 1 dB max.
Polarization Dependent Gain (PDG)	± 1 dB max.
Saturation Output Power	14 dBm typ.
Input Power	-25 ~ +5 dBm
Forward Voltage	2 V typ.
Operating Bias Current	350 mA type
Thermistor Resistance	10 kΩ typ. @ 25°C
Connectors	FC/APC, others optional

## ABSOLUTE MAXIMUM RATINGS

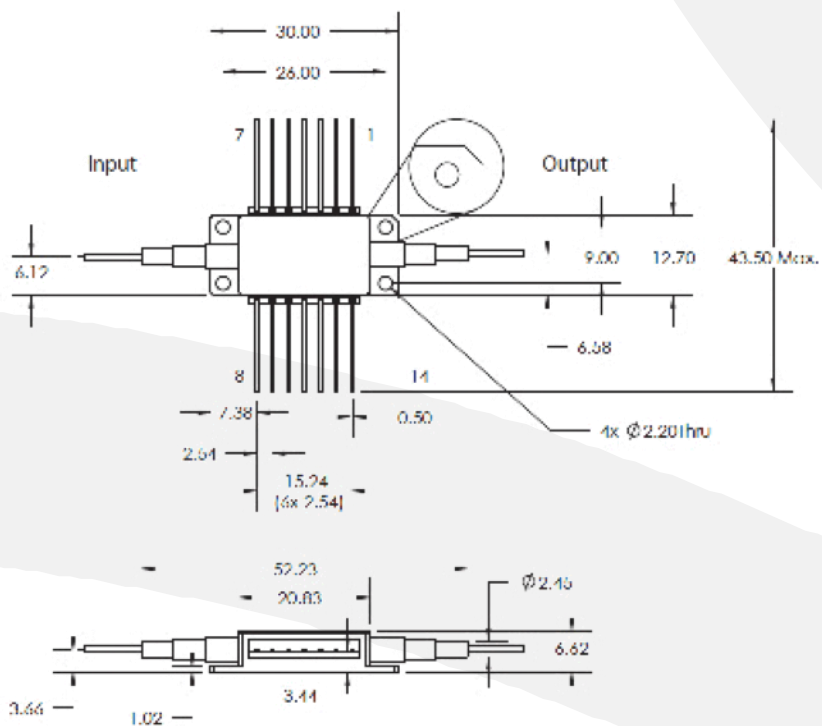
Operating Temperature (Case)	-10°C to +70°C, TQ version available
Storage Temperature	-40°C to +85°C
Operating Humidity	0% to 85% Relative Humidity
Operating Bias Current	400 mA
Optical Amplifier Reverse Bias	2 V
Thermistor Current	10kΩ NTC
TEC Current	1.8 A
TEC Voltage	3.4 V



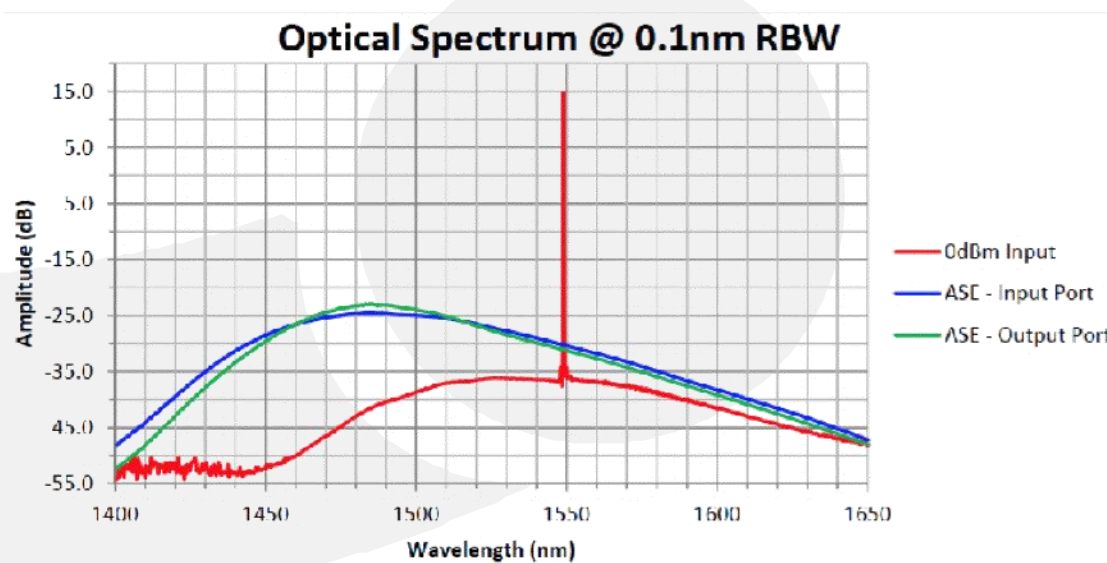


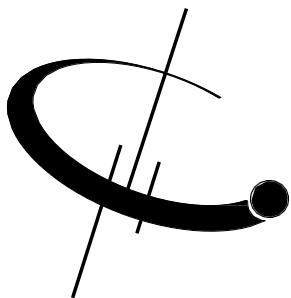
# SOA-1550-BP

## MECHANICAL DRAWING



## DETAILED SPECTRUM INFORMATION

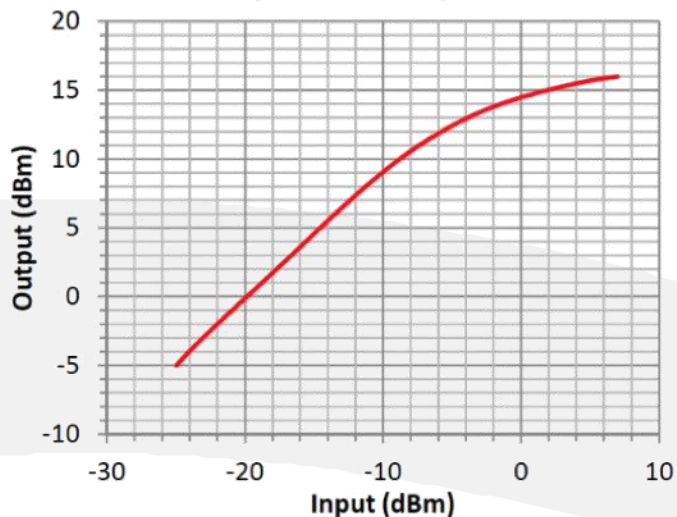




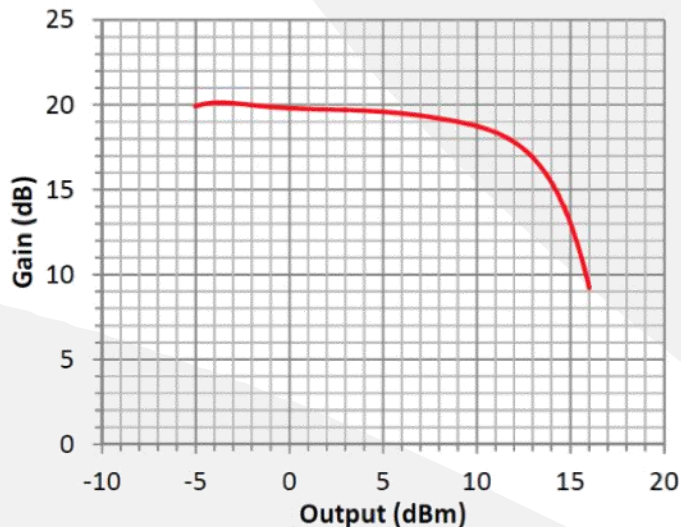
# SOA-1550-BP

## DETAILED SPECTRUM INFORMATION

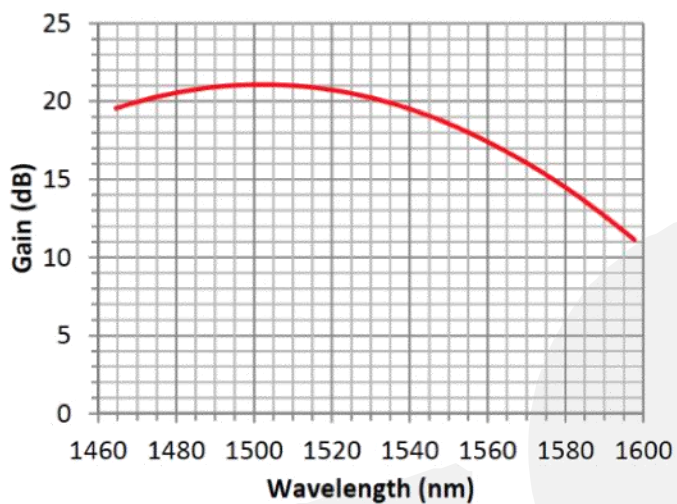
### Input vs. Output



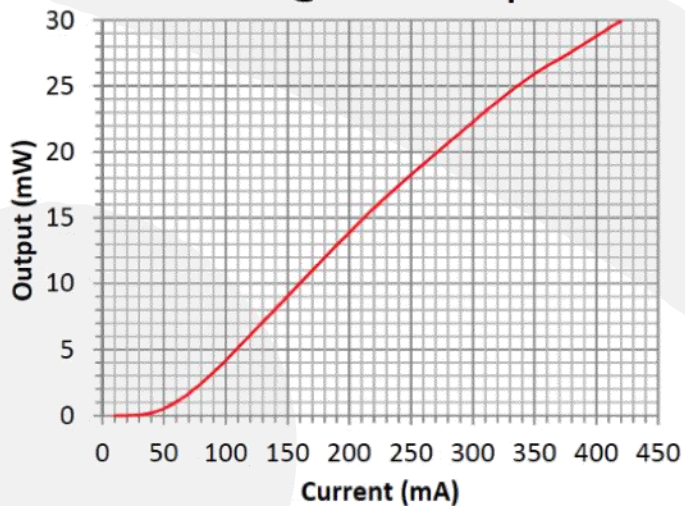
### Input vs. Gain

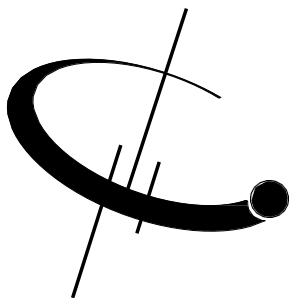


### Wavelength vs. Gain



### LI Curve @ 0.0dBm Input





# SOA-1550-BP

## RELATED MODULE

- **SOA-1550-M**



The Optilab SOA-1550-M is a semiconductor optical amplifier with high fiber-to-fiber gain for OEM integration in MSA housing.

