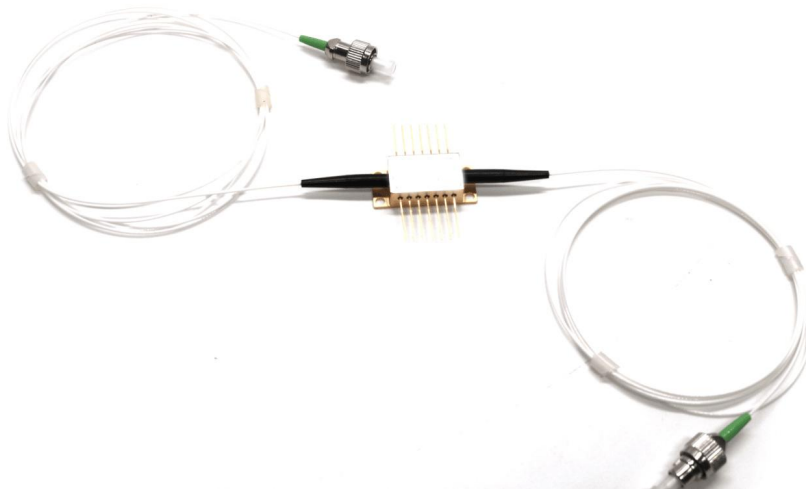


# 1550nm C-band 14dBm Semiconductor Optical Amplifier(Nonlinear)



## ● Product Description

1550nm SOA is a polarization-insensitive optical amplifier. Adopting advanced epitaxial wafer growth and optoelectronic packaging technology, it achieves high saturated output power, low noise figure and high gain over a broad spectral bandwidth.

## ● Product features

C-band amplification; nonlinear enhancement; fast response; compact package; low power consumption



## ● Part Number

MP-SOA-1550-13db-34-SA

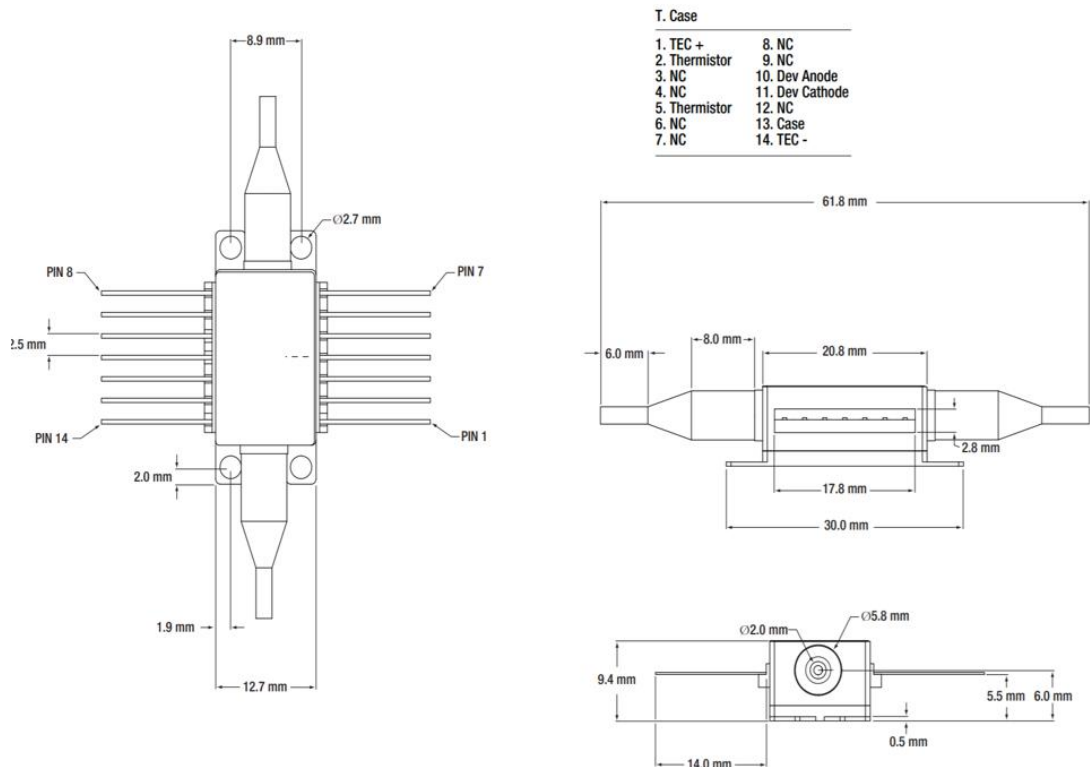
## ● Application area

Fiber optic sensing network | LiDAR | space communication | optical testing | national defense system

## ● Core parameters

Wavelength Range	Center Wavelength	Output Power
1528 nm-1562nm	1550nm	14dBm

## ● Dimension Drawing





## ● General Parameters

### Detailed Specifications

#### Electrical & Optical Characteristics (Tsub=25°C, CW)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Current	IOP	—	450	500	mA
Operating Wavelength Range	—	1528	—	1562	nm
Center Wavelength	$\lambda_C$	—	1550	—	nm
Saturated Output Power (@ -3 dB)	PSAT	12	14	—	dBm
Small Signal Gain (Over C-Band @ Pin = -20 dBm)	G	10	13	—	dB
Gain Flatness (Over C-Band @ Pin = -20 dBm)	$\Delta G$	—	5	7	dB
Gain Ripple (p-p) @ IOP, $\lambda_C$	$\delta G$	—	0.1	0.5	dB
Polarization Dependent Gain	PDG	—	1.0	1.8	dB
Noise Figure	NF	—	8	9.5	dB
Forward Voltage	VF	—	1.6	1.8	V
Chip Length	—	—	1.5	—	mm

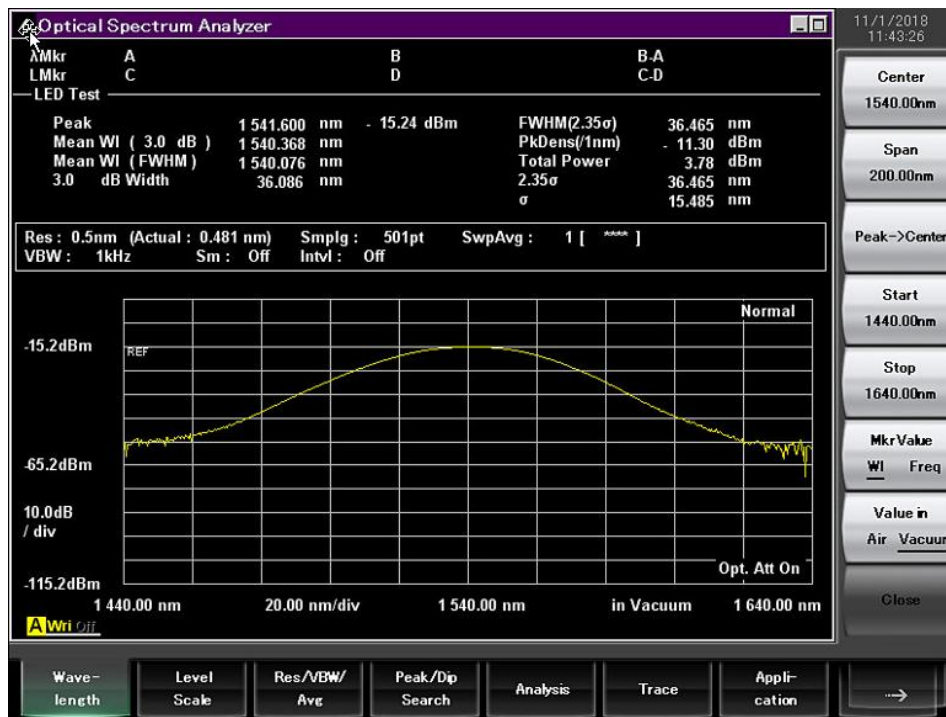


Waveguide Refractive Index		—	—	3.2	—	—
TEC Operation(Typical / Maximum @ TCASE = 25 / 70 °C)						
TEC Current	ITEC	—	0.23	1.5	A	
TEC Voltage	VTEC	—	0.5	4.0	V	
Thermistor Resistance	RTH	—	10	—	kΩ	

## Characteristic Curves

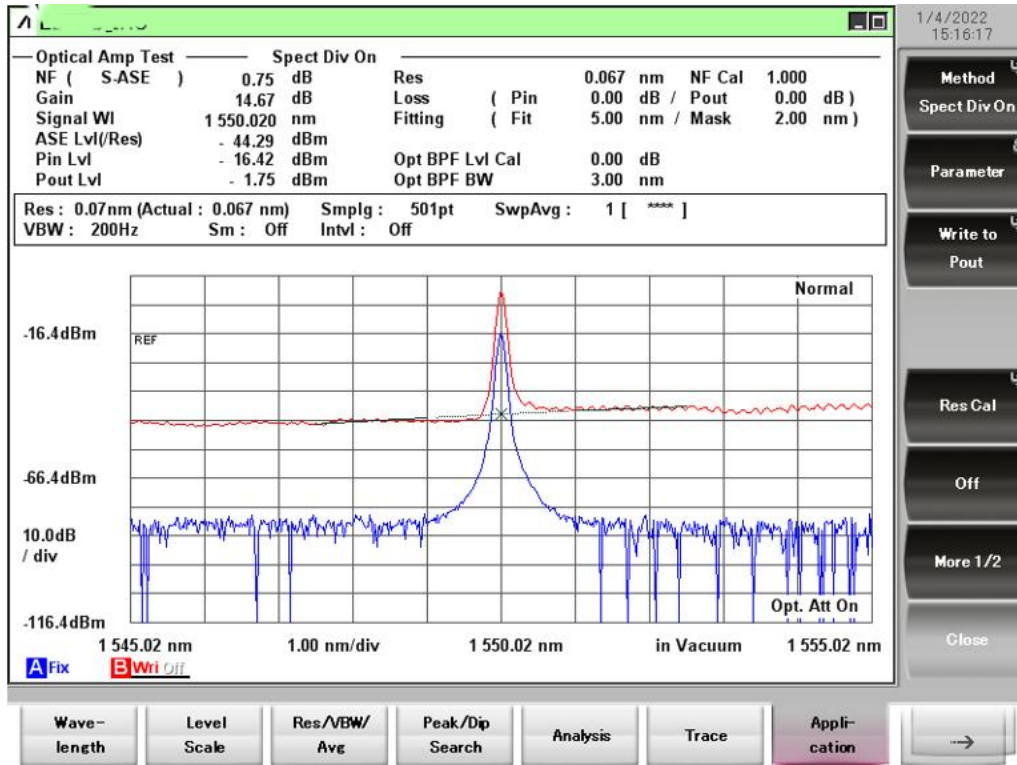
### Typical Performance Curves

### ASE Spectrum



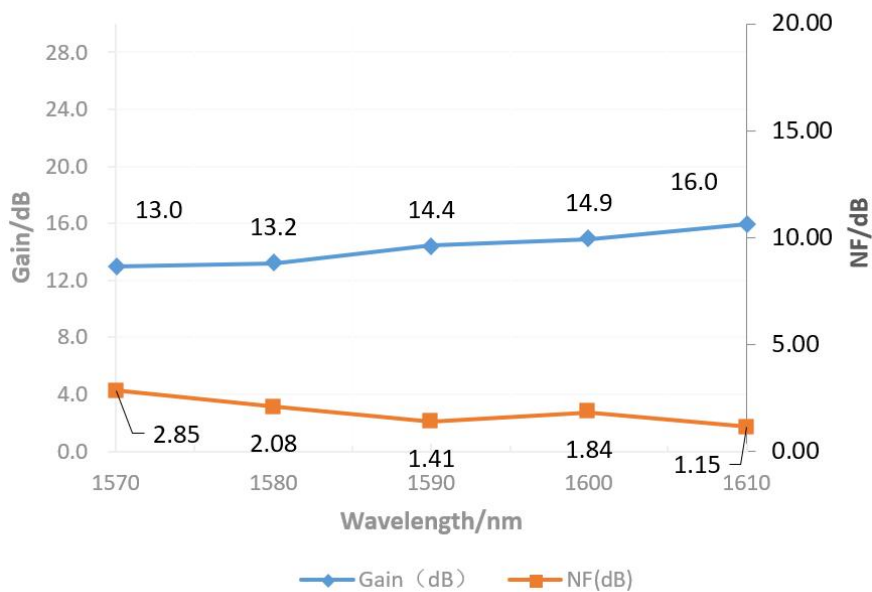


### SOA Amplifier Spectrum (Pin = 0 dBm, I = 450 mA)



### Gain and NF Curves

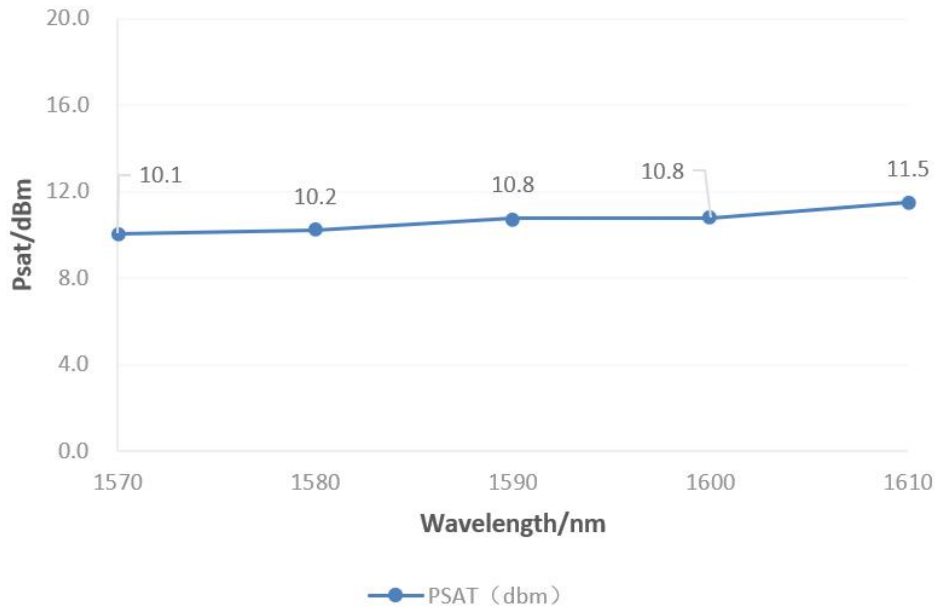
#### Gain and NF Trend





## Saturated Output Power Curve

### Psat Trend



## Ordering Information

MP-SOA-☆-A8▽-W□□□□-XX

☆ : Output Power

A: 5dbm

B: 10dbm

▽: Bandwidth

1: 60-70nm

2: 30-40nm

□□□□: Wavelength



680: 680nm

850: 850nm

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1550: 1550nm

1600: 1600nm

**XX: Fiber and Connector Type**

**SA=(SMF-28E+ FC/APC)+(SMF-28E+ FC/APC)**

**SP=(SMF-28E+ FC/PC)+(SMF-28E+ FC/PC)**

**PA=(PM Fiber+ FC/APC)+(PM Fiber+ FC/APC)**

**PP=(PM Fiber+ FC/PC)+(PM Fiber+ FC/PC)**