

## 1550nm Polarization Insensitive Semiconductor Optical Amplifier

1550nm Polarization Insensitive Semiconductor Optical Amplifier (SOA) is a optic active product which can boost the intensity of optical signal in a fiber optic communication system. The SOA built with angled multi-quantum-well chip to output stable amplified light, all of the polarization light will be amplified, the TEC and Thermistor built in to control the device temperature. It features high optical gain, high saturation output power, it's widely used in Optical Line Amplifier, Optic Non-linear Application and Optoelectronic Integration field, the output signal power can be customized.

### Application:

Optical Line Amplifier  
 Optic Non-linear Application  
 Optoelectronic Integration  
 WDM System

### Features:

High Optical Gain  
 Low Polarization Sensitivity  
 TEC and Thermistor Built In  
 High Reliability



### Absolute Maximum Ratings:

Parameter	Symbol	Value	Unit
SOA Forward Current	If	650	mA
SOA Reverse Voltage	Vr	2.5	V
Operating Temperature	T	-20~+70	°C
Storage Temperature	T	-40~+85	°C
Solder Temperature	T	260	°C
Lead Solder Time		10	S

Notice: Above specifications should not be exceeded, or the device will be seriously damaged.

### Optical and Electrical Specification:

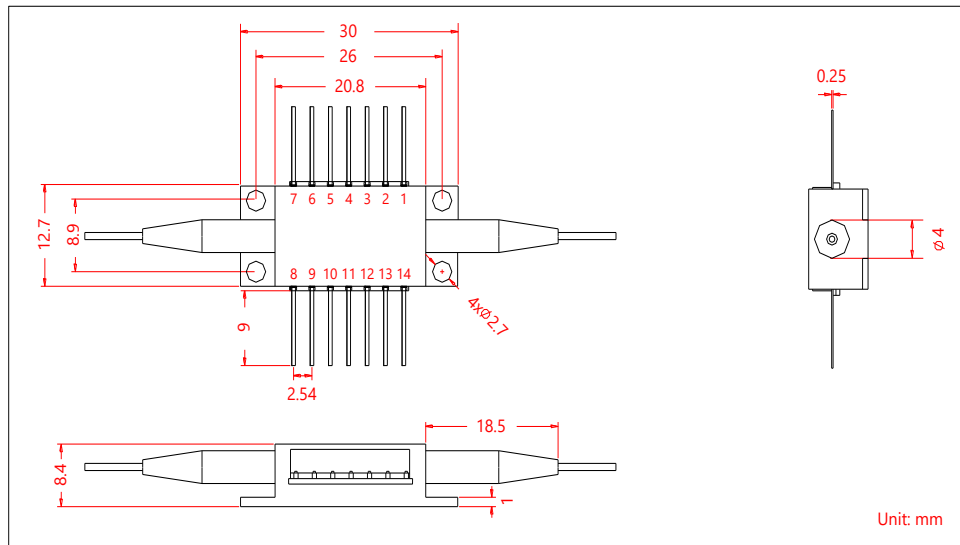
Parameter	Symbol	Min.	Tpy.	Max.	Unit	Test Condition
Center Wavelength	$\lambda_c$	1525	1550	1565	nm	
3dB Wavelength Bandwidth	BW	40			nm	
3dB Saturated Output Power		10			dBm	CW
Small Signal Gain	G	10			dB	CW, Pi=-25dBm
Gain Ripple	$\Delta G$		0.5	1.0	dB	$\lambda_c$
Noise Figure			8	9	dB	
Polarization dependent Gain	PDG		0.5	1.0	dB	
Optical Isolation	ISO	30			dB	
SOA Operating Current	Iop		450	600	mA	CW
TEC Current	Itec		1.0	1.5	A	
TEC Voltage	Vtec		2.8	3.5	V	
TEC Set Temperature	T	15		35	°C	
Thermistor Current	Ithe	10		100	uA	
Thermistor Resistance	Rthe	9.5	10	10.5	K $\Omega$	
Thermistor Temperature	T			100	°C	
Fiber Type		SMF-28e Fiber				

Notice: Above specifications are tested at in room temperature at 23°C.

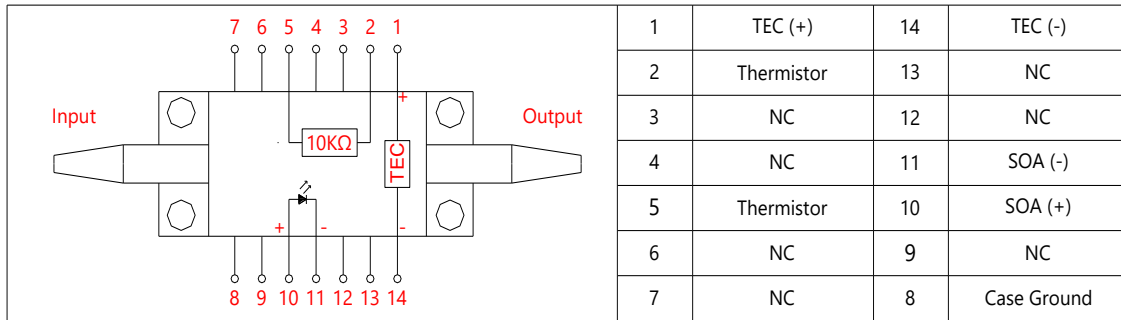
Slow axis is default aligned to the connector key.

Specifications may change without notice.

**Drawing:**



**Pin Information:**



**Ordering Information (Part Number):**

PISOA-**WWW**-**OO**-**J**-**LL**-**CC**

<b>WWW</b>	<b>OO</b>	<b>J</b>	<b>LL</b>	<b>CC</b>
Wavelength	Output Power	Fiber Jacket	Fiber Length	Connector
1550 - 1550nm	05 - 5dBm 08 - 8dBm 10 - 10dBm 13 - 13dBm SS - Specify	B - 250um Bare Fiber L - 900um Loose Tube	05 - 0.5m 10 - 1.0m 15 - 1.5m 20 - 2.0m SS - Specify	NE - None FA - FC/APC FU - FC/UPC LA - LC/APC LU - LC/UPC SA - SC/APC SU - SC/UPC SS - Specify

**Notification:**

1. The Semiconductor Optoelectronic products are particularly sensitive of ESD (electro-static discharge), it's recommended to use grounded anti-static wrist straps and grounded anti-static mats before handling the products.
2. Never plug or unplug the products under a living circuit, setting the current supply to zero before switching on or switching off the products.
3. Always take anti-static measures to storage the products when not in use.

