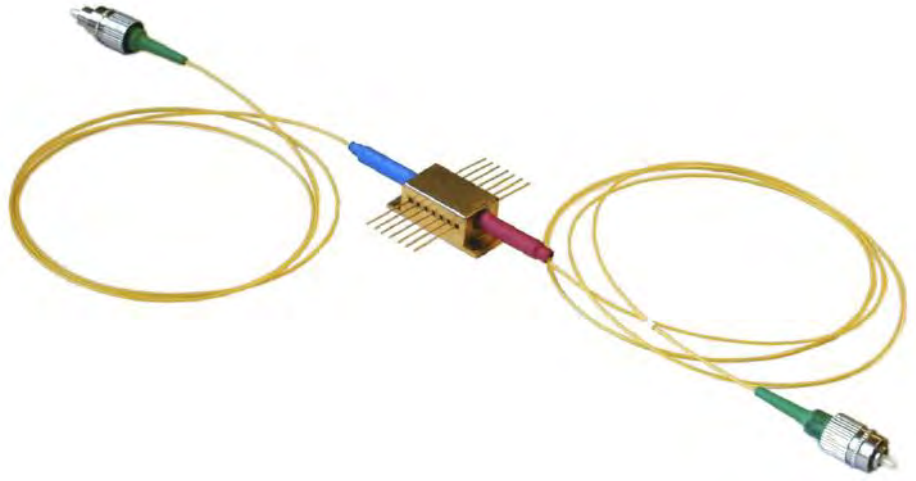
1600nm Semiconductor Optical Amplifier



Description

The PL-SOA-1-A81-W1600-PA 1600nm Semiconductor Optical Amplifier (SOA) is single-pass, traveling-wave amplifier that perform well with both monochromatic and multi-wavelength signals. The SOA consists of a highly efficient InP/InGaAsP Multiple Quantum Well (MQW) layer structure.

Features

- Single mode input/output
- Low chip-to-fiber coupling loss
- CW or pulsed operation
- SM or PM Fiber (ø0.9mm)
- FC-APC connectors
- 14-pin butterfly package
- Built-in thermistor and TEC
- Low power consumption

Application

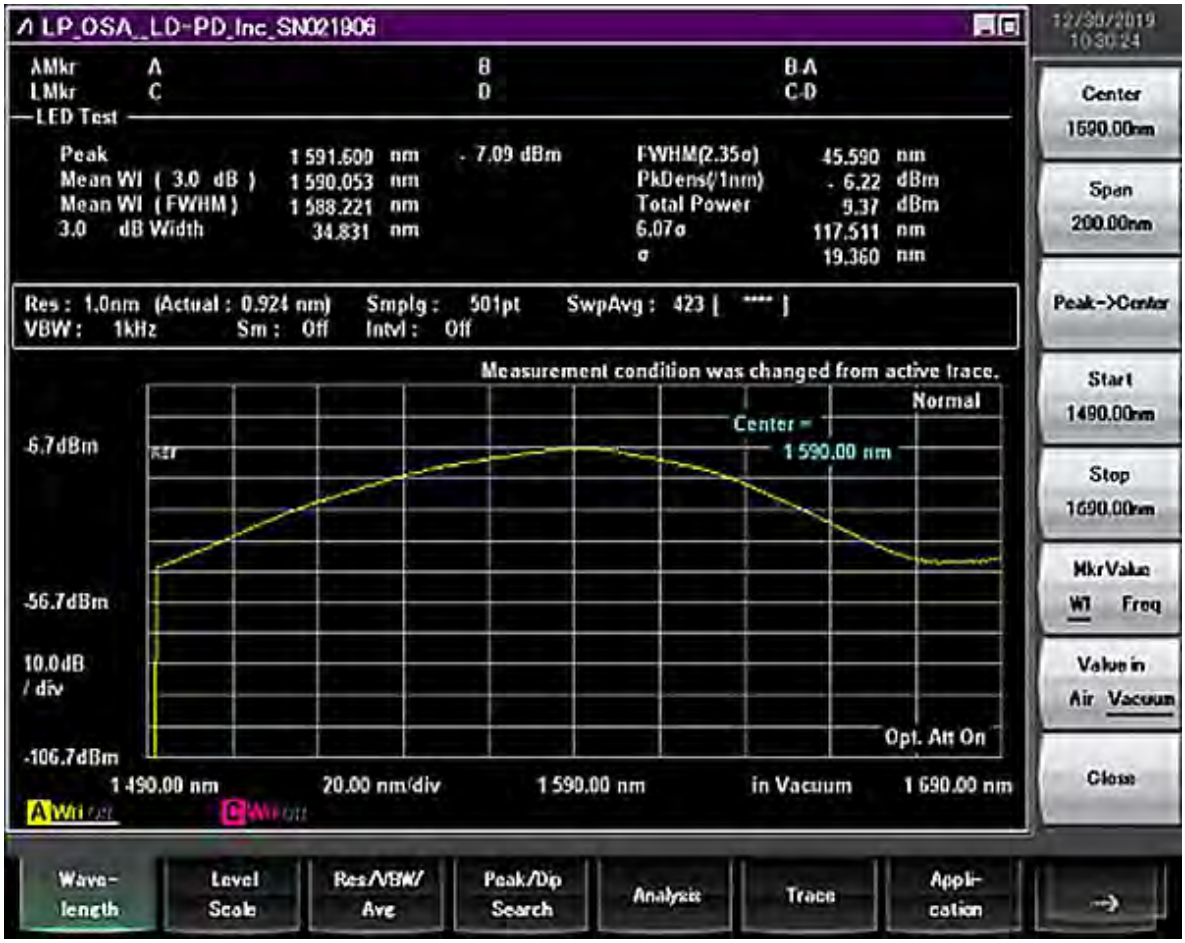
- Fiber transmission systems
- Fiber optic gyros
- Fiber optic sensors
- Optical coherence tomography
- Testing Light source

E/O Characteristics

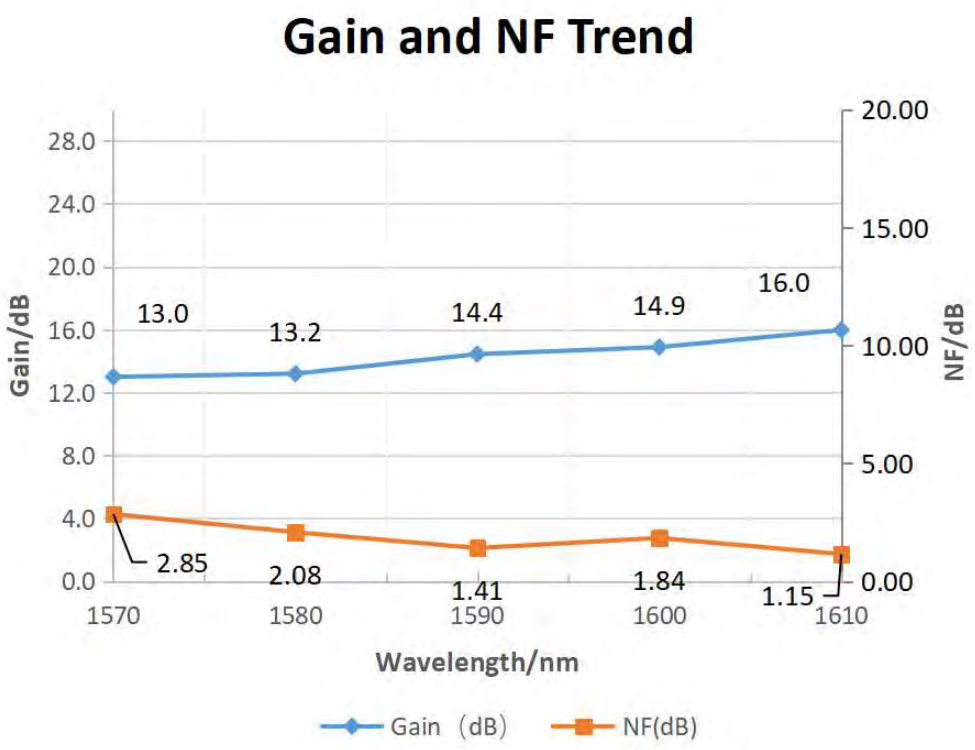
Electrical/Optical Characteristics(Tsub=25°C, CW bias unless stated otherwise)

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Fiber to fiber Gain	G	CW, IF = 300mA	20	24	28	dB
Forward Current	IF			300	350	mA
Forward Voltage	VF				2.5	V
Center Wavelength	λc	CW, IF = 300mA	1570	1590	1610	nm
Spectral Width	Δλ	CW, IF = 300mA	30	35	40	nm
Saturation Power	PS	CW, IF = 300mA	8	9	10	dBm
Noise Figure	NF	CW, IF = 300mA	7	8	9	dB
Gain Ripple	δG	CW, IF = 300mA		1	2	dB
Polarization Dependent Gain	PDG	CW, IF = 300mA		10		dB
Cooler Voltage	VC	IF=EOL, TC=70°C			2.7	V
Cooler Current	IC	IF=EOL, TC=70°C			1.4	A
Thermal Resistance	Ro	TLD=25°C, B=3900±100K	9.5	10.0	10.5	kΩ

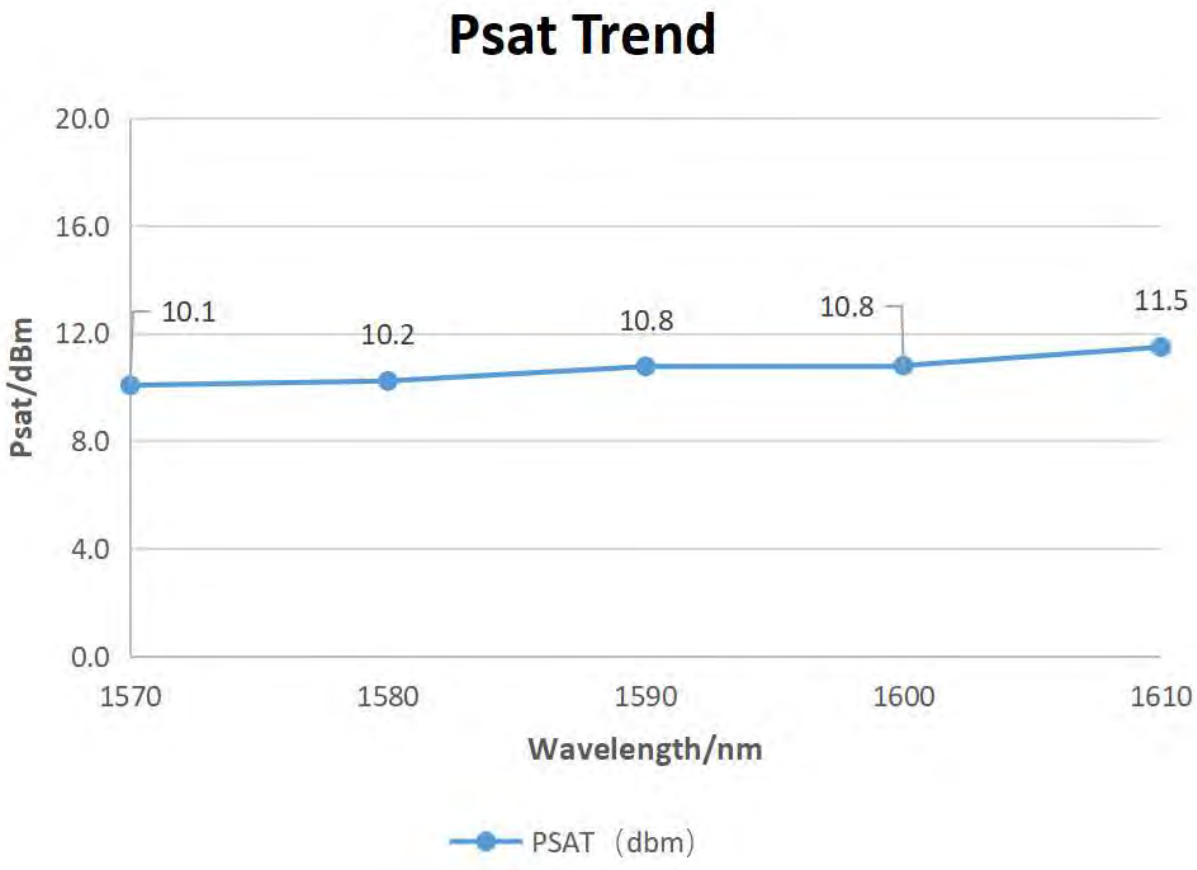
Spectrum



Gain with Noise Figure Curve

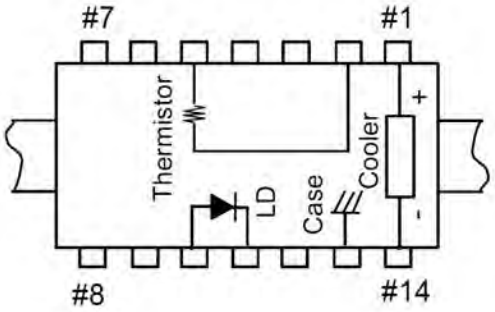


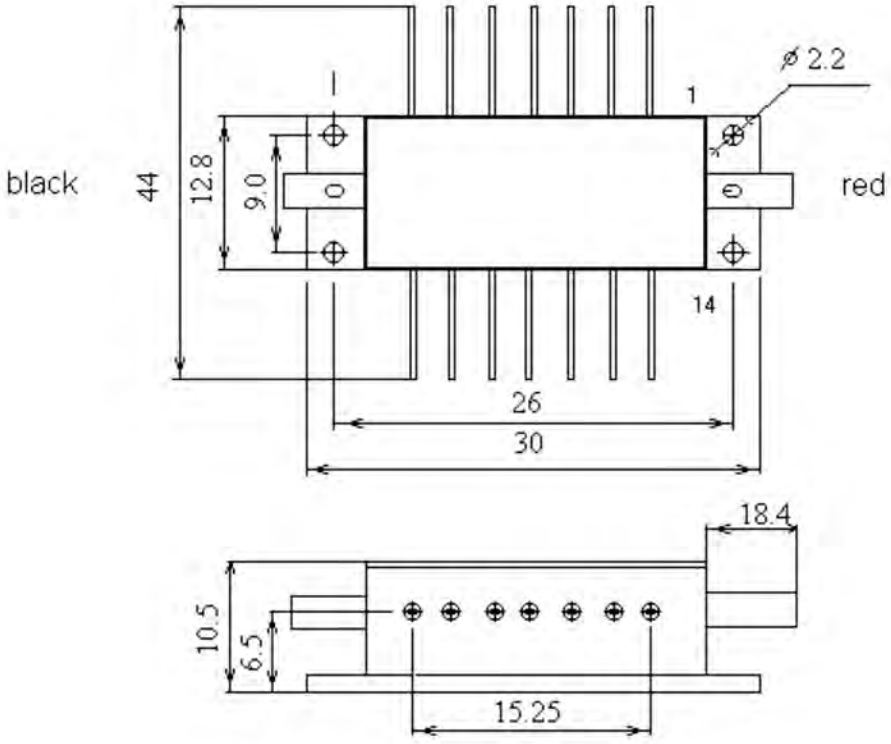
Output Power with Wavelength



Dimensions and Pin definitions

No.	FUNCTION	No.	FUNCTION
1	Cooler anode	8	NC
2	Thermistor	9	NC
3	NC	10	LD anode
4	NC	11	LD cathode
5	Thermistor	12	NC
6	NC	13	Case
7	NC	14	Cooler anode





PIN#	Function	PIN#	Function
1	Thermoelectric Cooler (+)	8	NC
2	Thermistor	9	NC
3	NC	10	LD Anode (+)
4	NC	11	LD Cathode (–)
5	Thermistor	12	NC
6	NC	13	Case Ground
7	NC	14	Thermoelectric Cooler (–)

ABSOLUTE MAXIMUM RATINGS

Item	Unit	Min	Typ	Max
Case Temperature	°C	-20	25	75
Chip Temperature	°C	+10	25	40
Operating Current	mA	0	350	420
Forward Voltage	V	0.8	1.2	1.8
TEC Current	A	-	1.2	2.0
Reverse Voltage（SLD）	V	-	-	2.0
Reverse Voltage(PD)	V	-	-	10
PD Forward Current	mA			10

Ordering Info

PL-SOA-☆-A8▽-W□□□□-XX

☆ : Output Power

A: 5dbm

B: 10dbm

▽:Bandwidth

1: 60-70nm

2: 30-40nm

□□□□:Wavelength

680: 680nm

850: 850nm

*****

1550: 1550nm

1600: 1600nm

XX: Fiber and Connector Type

SASA=(SMF-28E+ FC/APC)+(SMF-28E+ FC/APC)

SPSP=(SMF-28E+ FC/PC)+(SMF-28E+ FC/PC)

PAPA=(PM Fiber+ FC/APC)+(PM Fiber+ FC/APC)

PPPP=(PM Fiber+ FC/PC)+(PM Fiber+ FC/PC)

PAPA=(PM Fiber+ FC/APC)+(PM Fiber+ FC/APC)