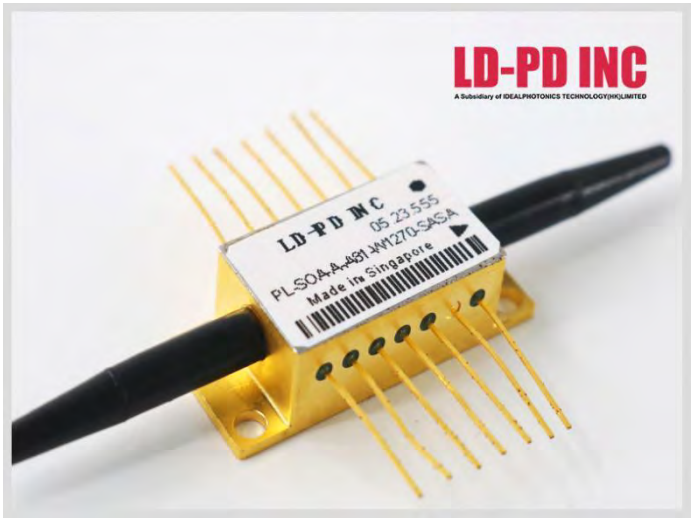
1270nm Semiconductor Optical Amplifier



Description

The PL-SOA-A-A81-W1270-SA 1270nm 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

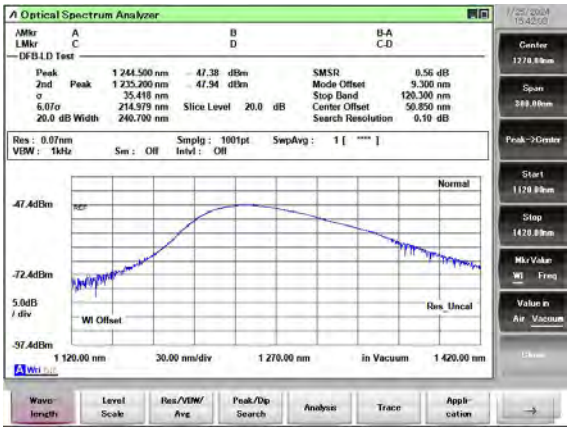
- Swept-source, tunable lasers
- Booster optical amplifiers
- Optical preamplifiers
- Optical coherence tomography (OCT)

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 = 250mA	10	15	20	dB
Forward Current	IF			200	250	mA
Forward Voltage	VF				2.5	V
Center Wavelength	λc	CW, IF = 250mA	1250	1270	1290	nm
Spectral Width	Δλ	CW, IF = 250mA	30	35	40	nm
Saturation Power	PS	CW, IF = 250mA	10	13	15	dBm
Noise Figure	NF	CW, IF = 250mA	7	8	9	dB
Gain Ripple	δG	CW, IF = 250mA		1	2	dB
Polarization Dependent Gain	PDG	CW, IF = 250mA		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

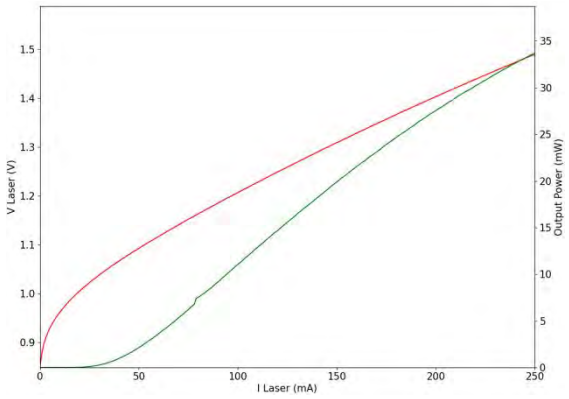


SOA Power Amplification Comparison(25deg,Pin=0dBm,I=250mA)

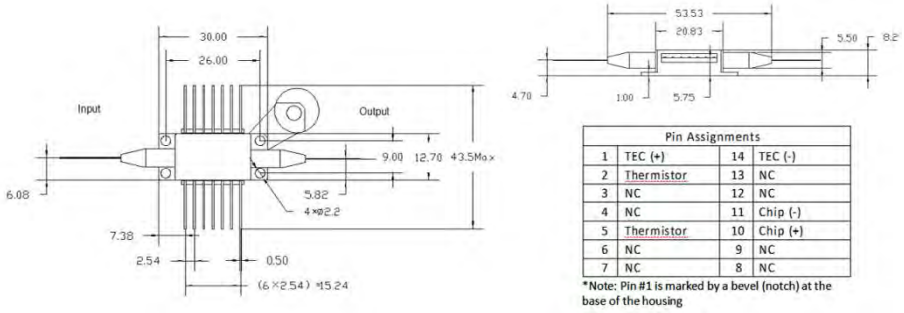


62 Highland Ave., Bethlehem, PA 18017, USA
Sales: contact@cybel-llc.com | Web: www.cybel-llc.com | Tel: +1 (610) 691-7012

SOA Characteristic Graph(25deg,Pin=0dBm)



Dimensions and Pin definitions



Pin Assignments			
1	TEC (+)	14	TEC (-)
2	Thermistor	13	NC
3	NC	12	NC
4	NC	11	Chip (-)
5	Thermistor	10	Chip (+)
6	NC	9	NC
7	NC	8	NC

*Note: Pin #1 is marked by a bevel (notch) at the base of the housing

NO.	Function	NO.	Function
1	Thermoelectric Cooler (+)	8	N/C
2	Thermistor	9	N/C
3	NC	10	LD Anode (+)
4	NC	11	LD Cathode (–)
5	Thermistor	12	N/C
6	N/C	13	NC
7	N/C	14	Thermoelectric Cooler (–)

Absolute Maximum Ratings

Item	Unit	Min	Typ	Max
Case Temperature	℃	-20	25	75
Chip Temperature	℃	+10	25	40
Operating Current	mA	0	200	250
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

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Ordering Info

PL-SOA-☆-A8▽-W□□□□-XX

☆ : Output Power

A: 15db

B: 20db

▽：Bandwidth

1: 60-70nm

2: 30-40nm

□□□□：Wavelength

680: 680nm

850: 850nm

*****

1270: 1270nm

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)