S Band (1450-1530nm) Semiconductor Optical Amplifier, Low Polarization



Description

The PL-SOA-A-A81-W1500-SASA is a polarization-insensitive optical amplifier with advanced epitaxial wafer growth and opto-electronic packaging techniques that enable a high output saturation power, lownoise figure, and large gain across a broad spectral bandwidth.

Features

- Wide Optical Bandwidth
- High Output Power
- Low Polarization Sensitivity
- MQW or Bulk Structure

Application

- Booster Amplifier
- Telecom and Datacom
- Loss Compensation

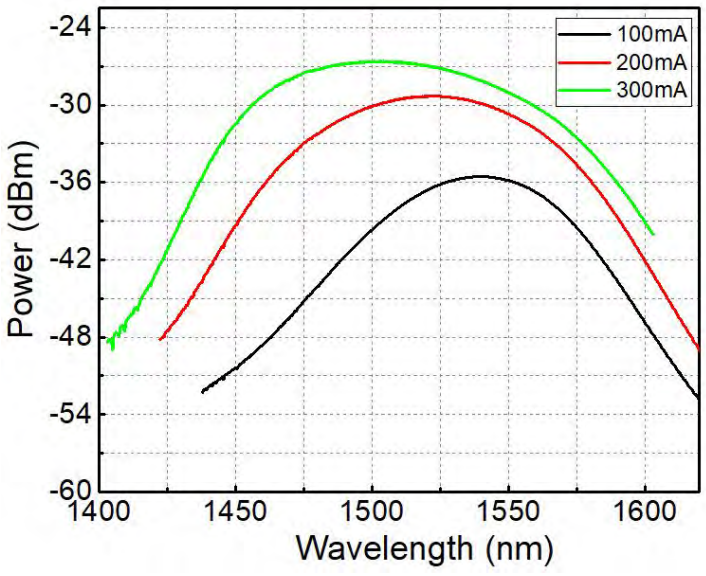
E/O Characteristics

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

tem #	Symbol	PL-SOA-A-A81-W1500-SASA		
		Min	Typical	Max
Operating Current	IOP	-	450 mA	500 mA
Operating Wavelength Range		1450 nm	-	1530nm
Center Wavelength	λC	-	1500	-
Saturation Output Powerb (@ -3 dB)	PSAT	12 dBm	14 dBm	-
Small Signal Gain (Over C-Band @ Pin = -20 dBm)	G	10 dB	13 dB	-
Gain Flatness (Over C-Band @ Pin = -20 dBm)	ΔG	-	5 dB	7 dB
Gain Ripple (p-p) @ IOP, λC	δG	-	0.1 dB	0.5 dB
Polarization Dependent Gain	PDG	-	1.0 dB	1.5 dB
Noise Figure	NF	-	7 dB	9.5 dB
Forward Voltage	VF	-	1.6 V	1.8 V
Chip Length	-	-	1.5 mm	-
Waveguide Refractive Index	-	-	3.2	-
TEC Operation (Typical/Max @ TCASE = 25/70 °C)				
TEC Current	ITEC	-	0.23 A	1.5 A
TEC Voltage	VTEC	-	0.5 V	4.0 V
Thermistor Resistance	RTH	-	10 kΩ	-

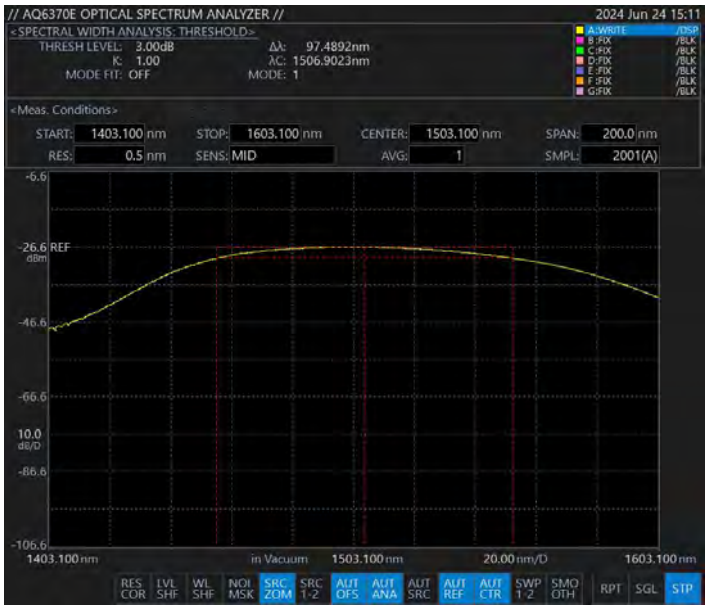
Performance Plots

ASE Spectrum

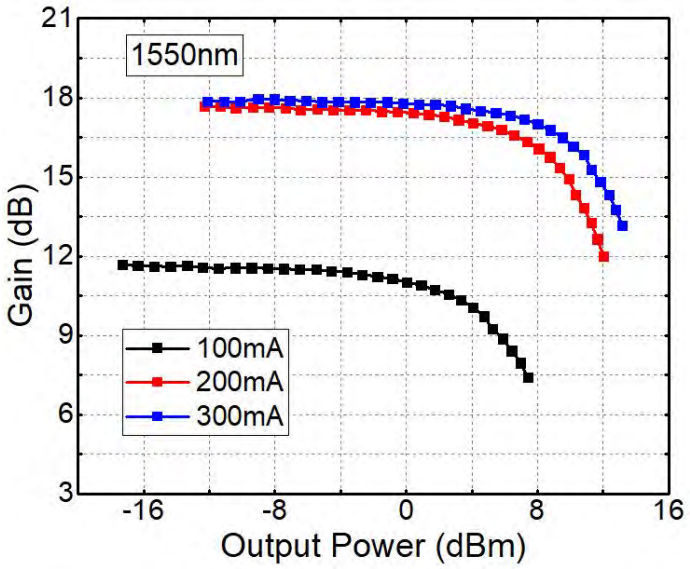


	nm	100mA	200mA	300mA
Port 1	CWL	1538.57	1521.41	1506.90
Port1	-3dB bandwidth	64.50	83.48	97.49
Port 2	CWL	1538.25	1521.24	1506.90
Port 2	-3dB bandwidth	64.81	83.98	95.21

Spectrum@300mA Driving Current



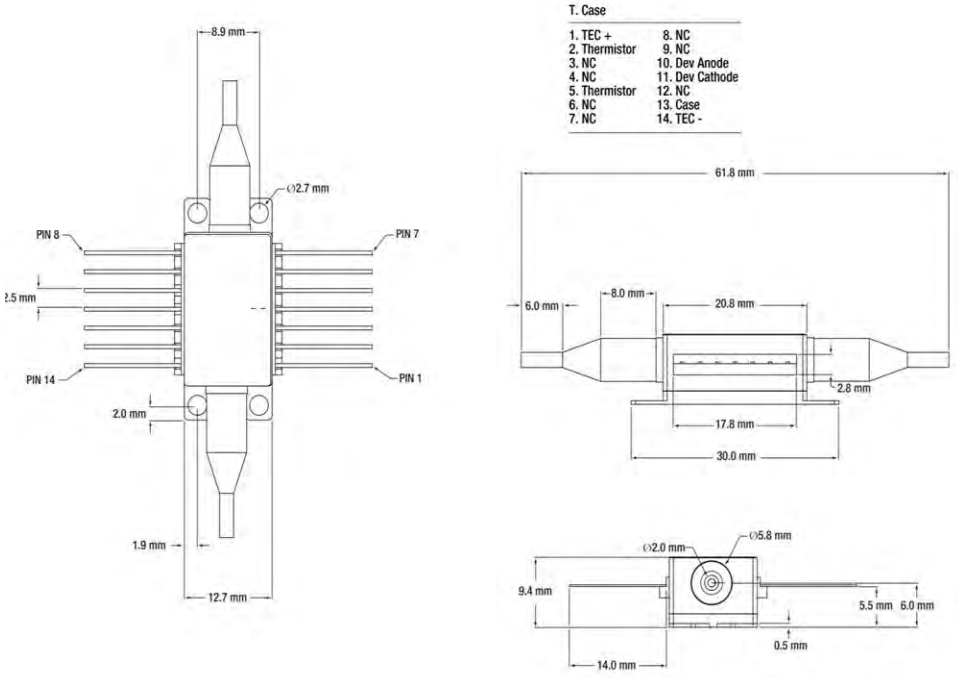
SOA Gain Trend with different Inputs



PDG Test

Pin=-25dBm PDG（dB）	100mA	200mA	300mA
1510nm	0.31	0.89	0.91
1530nm	0.63	0.58	0.4
1550nm	1.03	1.39	0.82
1570nm	0.73	0.7	0.43
1590nm	0.43	0.29	0.24

Dimensions and Fiber definitions



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

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Ordering Info

PL-SOA-☆-A8▽-W□□□□-XX

☆ : Output Power

A: ＞10dbm

▽：Bandwidth

1: 60-70nm

2: 30-40nm

□□□□：Wavelength

680: 680nm

850: 850nm

*****

1500: 1500nm

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)