1550nm Semiconductor Optical Amplifier



Description:

The PL-SOA-A-A81-W1550-PAPA 1550nm 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

Optional:

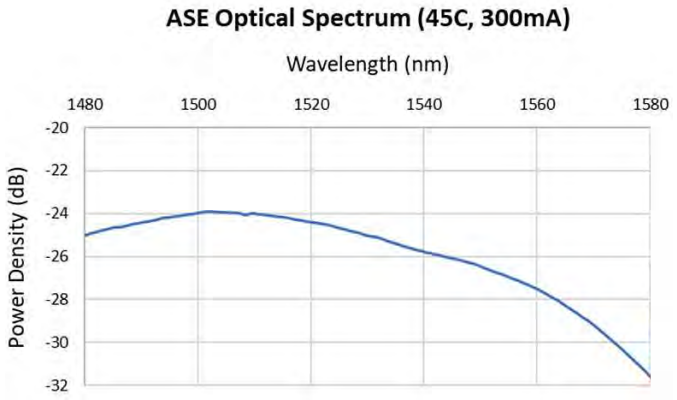
- Fiber transmission systems
- Fiber optic gyros
- Fiber optic sensors
- Optical coherence tomography
- Testing Light source

E/O Characteristics:

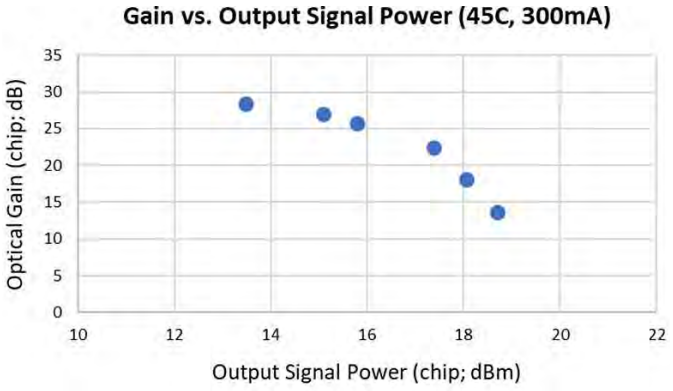
Electrical/Optical Characteristics (Tsub=25°C, CW bias unless stated otherwise)

tem #	Symbol	PL-SOA-A-A81-W1550-PAPA		
		Min	Typical	Max
Operating Current	IOP	-	450 mA	500 mA
Operating Wavelength Range		1528 nm	-	1562 nm
Center Wavelength	λC	-	1550	-
Saturation Output Powerb (@ -3 dB)	PSAT	12 dBm	13.5 dBm	-
Polarization extinction ratio	PER	15 dB	20 dB	
Small Signal Gain (Over C-Band @ Pin = -15dBm)	G	20 dB	25 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	1.8 dB
Noise Figure	NF	-	8 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	-

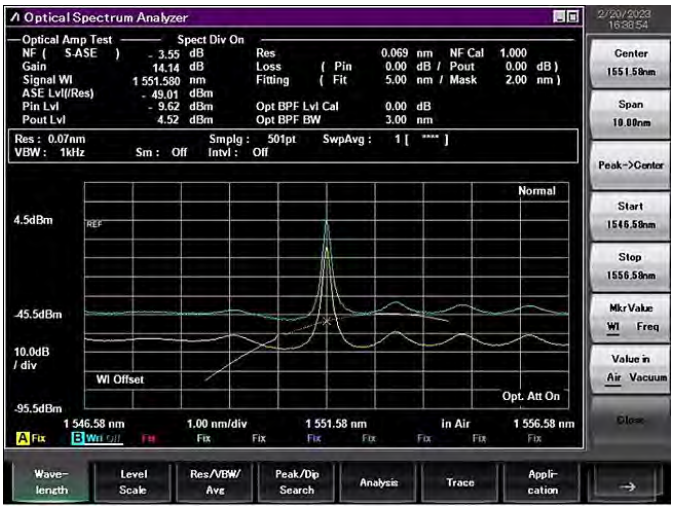
ASE Spectrum:



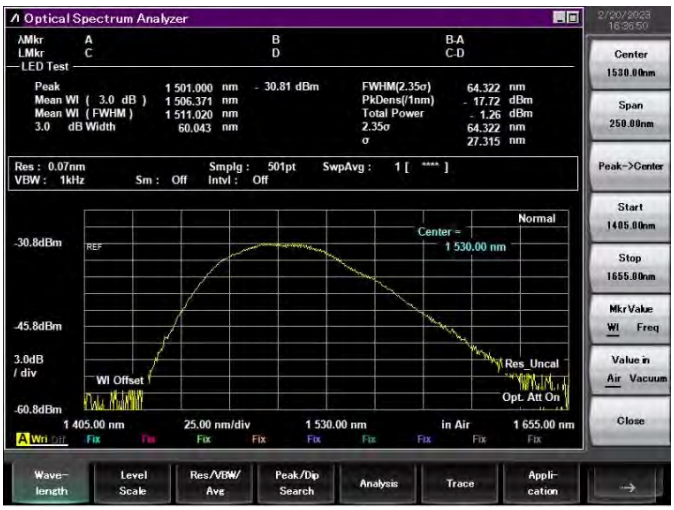
Gain with Output Signal Power:



SOA Power Amplification Comparison(25deg,Pin=0dBm,I=400mA):

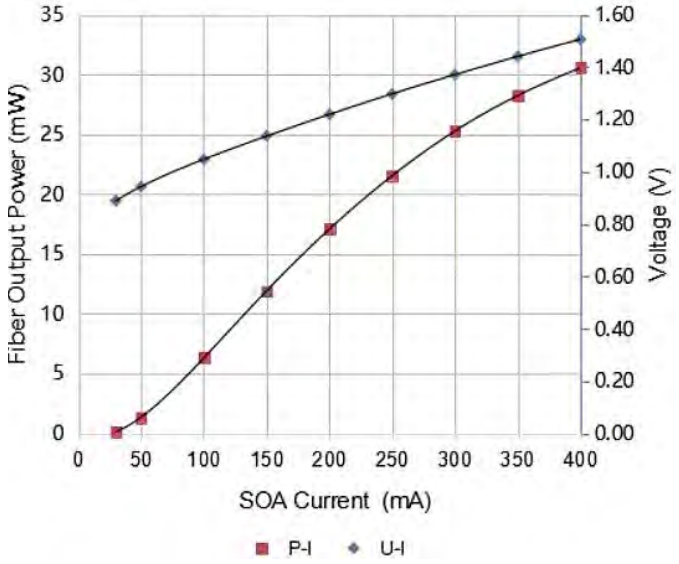


SOA ASE Spectrum(25deg,I=400mA):

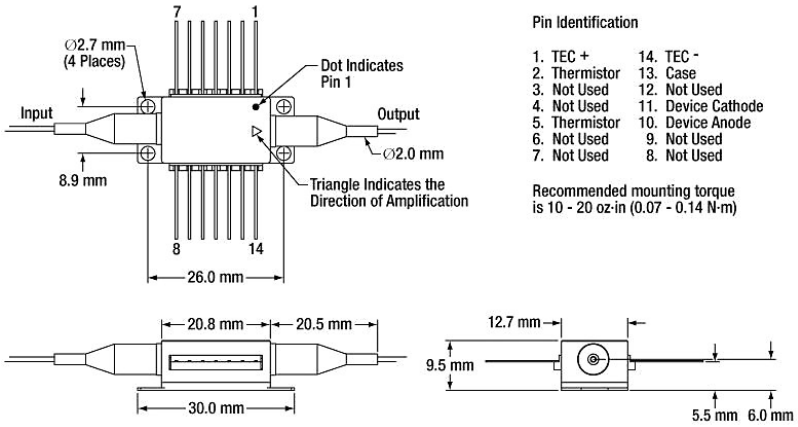


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SOA Characteristic Graph(25deg,Pin=0dBm):



Dimensions and Pin definitions:



Pin Identification

1.	TEC +	14.	TEC -
2.	Thermistor	13.	Case
3.	Not Used	12.	Not Used
4.	Not Used	11.	Device Cathode
5.	Thermistor	10.	Device Anode
6.	Not Used	9.	Not Used
7.	Not Used	8.	Not Used

Recommended mounting torque
is 10 - 20 oz-in (0.07 - 0.14 N-m)

Ordering Info:

PL-SOA-☆-A8▽-W□□□□-XX

☆: Output Power

A: 12dbm

B: 15dbm

C: 20dBm

▽: Bandwidth

1: 60-70nm

2: 30-40nm

□□□□: Wavelength

780: 680nm

850: 850nm

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1060: 1060nm

1550: 1550nm

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)