

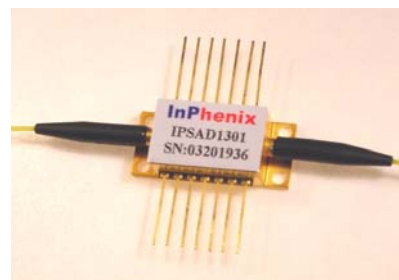
INPHENIX

Semiconductor Optical Amplifier Device (Gain-type)

IPSAD1301/ IPSAD1501 (1310nm/1550nm)

Features

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



Applications

- Booster Amplifier (B-type)
- In-line Amplifier (L-type)
- Loss Compensation for Optical Cross-connect

IPSAD1301 Gain-type SOA Device Specifications

Parameter	Symbol	B-type			L-type			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	
Drive Current	I_F		250			250		mA
Peak Wavelength	λ_p	1280		1340	1280		1340	nm
3 dB Optical Bandwidth	$\Delta\lambda_{3dB}$	55			45			nm
Small Signal Gain @ λ_p	G_{max}	13	16		18	22		dB
Gain Ripple with Respect to λ	ΔG		0.5	1.0		0.5	1.0	dB
Saturation Output Power	P_{sat}	10				10		dBm
Polarization Dependent Gain	PDG		0.5	1.0		0.5	1.0	dB
Noise Figure	NF		7	7.5		7	7.5	dB

IPSAD1501 Gain-type SOA Device Specifications

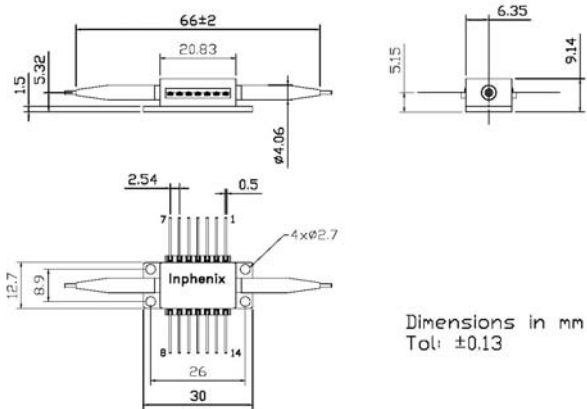
Parameter	Symbol	B-type			L-type			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	
Drive Current	I_F		250			250		mA
Peak Wavelength	λ_p	1510		1590	1510		1590	nm
3 dB Optical Bandwidth	$\Delta\lambda_{3dB}$	55			45			nm
Small Signal Gain @ λ_p	G_{max}	12	15		18	20		dB
Gain Ripple with Respect to λ	ΔG		0.5	1.0		0.5	1.0	dB
Saturation Output Power	P_{sat}		10			10		dBm
Polarization Dependent Gain	PDG		0.5	1.0		0.5	1.0	dB
Noise Figure	NF			9.0			9.0	dB



Absolute Maximum Ratings

Parameter	Min.	Max.	Unit
Operating Temperature	-20	70	°C
Storage Temperature	- 40	85	°C
SOA Forward Current		300	mA
SOA Reverse Voltage		2.5	V
TEC Drive Current		1.5	A
TEC Drive Voltage		3.6	V
Thermistor Resistance	10 kΩ @ 25 °C		
SOA Chip Temperature Setting	25 °C		
Fiber Type	SMF		
Fiber Jacket	900 μm or 250 μm tight buffer		
Package	14-pin Butterfly		

Package Dimensions

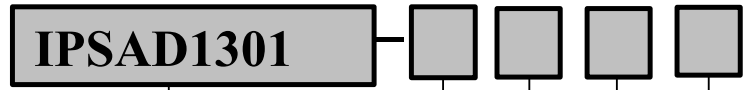


Pin Definition

Pin	14-pin Butterfly
1	TEC(+)
2	NC
3	Thermistor
4	Thermistor
5	NC
6	NC
7	NC
8	NC
9	NC
10	SOA(+)
11	SOA(-)
12	NC
13	Case
14	TEC(-)



Part Numbering Structure



Model-

IPSAD1301: 1310nm Gain-type SOA Device
 IPSAD1501: 1550nm Gain-type SOA Device

Type-

B: Booster type
 L: In-line type

Package-

1: Deleted
 2: 14-pin Butterfly

Fiber Type:

1- 900 μ m SM Fiber
 2- 250 μ m SM Fiber

Connector Type:

0=No Connectors	5= Deleted
1=Deleted	6= Deleted
2=Deleted	7=SC/APC
3=FC/APC	8=SC/UPC
4=FC/UPC	

Example: IPSAD1301-L210: 1310 nm Gain-type In-line Amplifier SOA in 14-pin Butterfly Package with 900 μ m SM Fiber with no Connectors.

Corporate Office

250 North Mines Rd
 Livermore, CA 94551
 Tel: 925.606.8809
 Fax: 925.606.8810
www.inphenix.com