

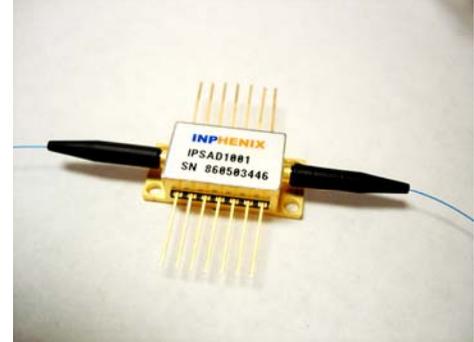
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Semiconductor Optical Amplifier Device (In-Line Type)

IPSAD1303 (1310nm)

Features

- Wide Optical Bandwidth
- High Gain
- Low Gain Ripple
- Low Noise Figure
- MQW or Bulk Structure



Applications

- In-Line Amplifier
- Loss Compensation
- G-PON Reach Extension

Device Specifications

Parameter	Symbol	Specifications			Unit
		Min.	Typ.	Max.	
Drive Current	I_F	-	250	-	mA
Operating Wavelength	λ_o	1280	1310	1340	nm
3dB Optical Bandwidth	$\Delta\lambda_{3dB}$	50	-	-	nm
Small Signal Gain at @ - 25dBm Signal	G_{max}	18	19	-	dB
Gain Ripple with Respect to λ	ΔG	-	0.5	1	dB
Saturation Output Power	P_{sat}	6	7	-	dBm
Noise Figure	NF	-	7	7.5	dB
Polarization Dependent Gain	PDG	-	1.5	-	dB

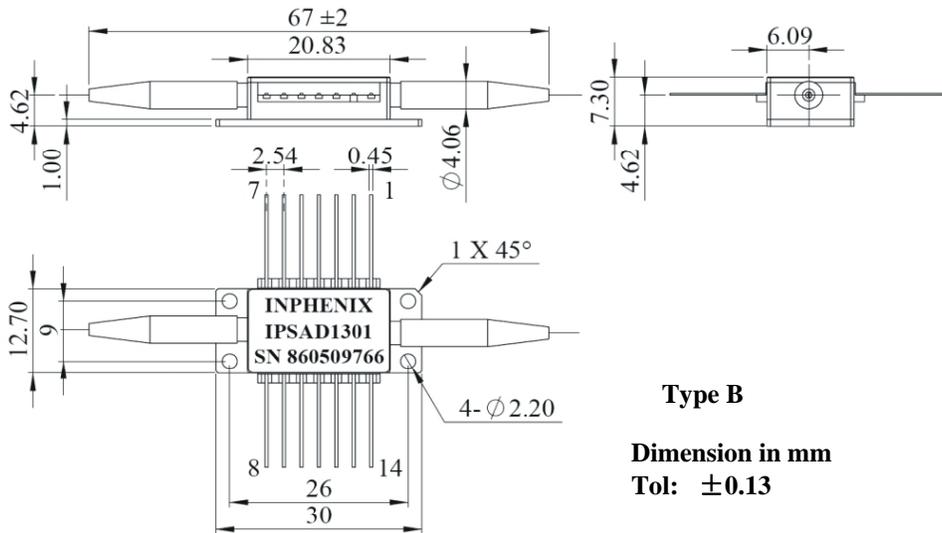
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Absolute Maximum Ratings

Parameter	Min.	Max.	Unit
Operating Temperature	- 20	70	°C
Storage Temperature	- 40	85	°C
SOA Forward Current	-	400	mA
SOA Reverse Voltage	-	2.5	V
TEC Drive Current	-	1.5	A
TEC Drive Voltage	-	3.6	V
Thermistor Resistance	10k Ω @ 25°C		
SOA Chip Temperature Setting	25°C		
Fiber Type	SMF/PMF/MMF ClearCurve Fiber		
Fiber Jacket	250 μ m tight buffer with/without 900 μ m loose tube, or 900 μ m tight buffer		
Package	14-pin Butterfly Type B or C		

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Package Dimensions



Type B

Dimension in mm

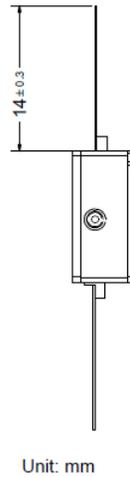
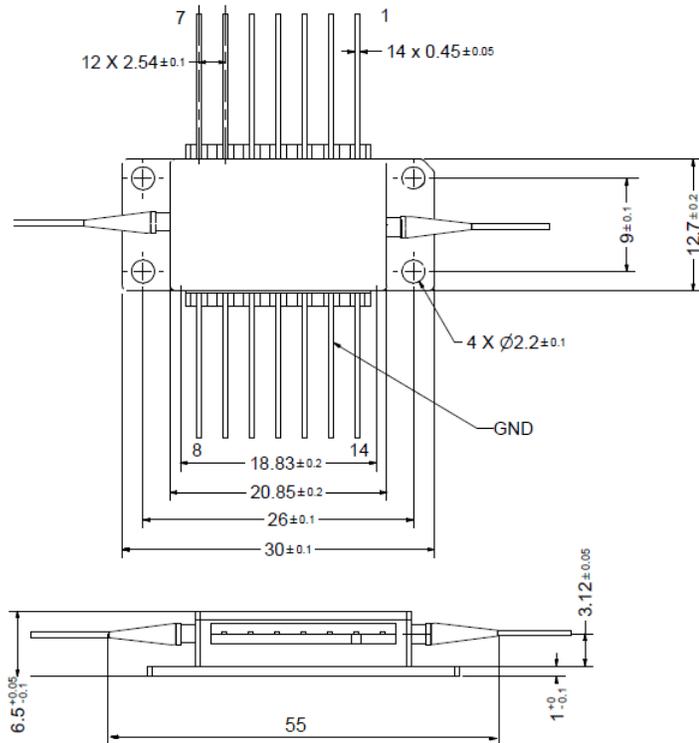
Tol: ± 0.13

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(-)

Option: Pin 2 & Pin 5 for thermistor

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Type C

Dimension in mm
Tol: ±0.13

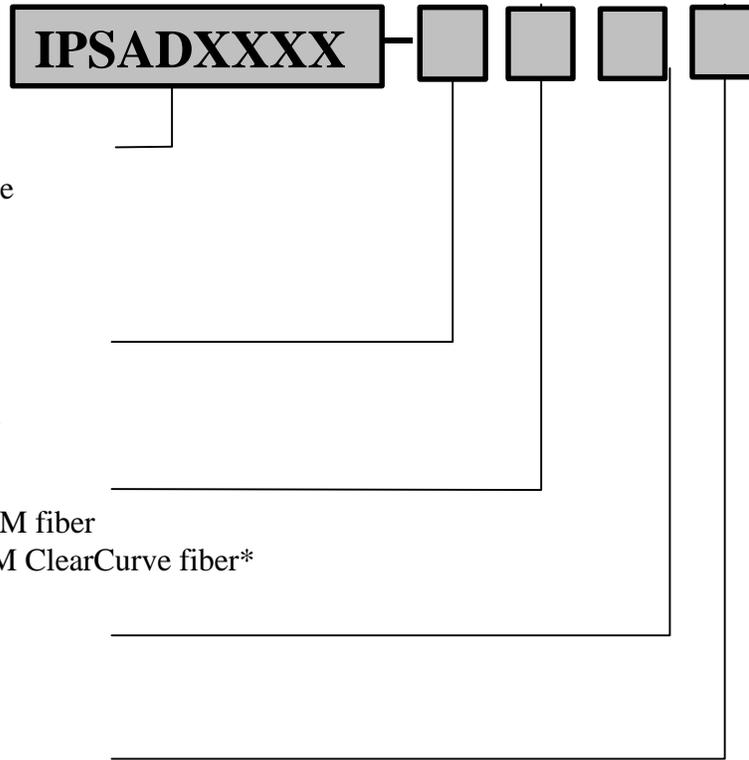
Pin Definition

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

Option: Pin 2 & Pin 5 for thermistor

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Part Numbering System



Model:

IPSADXXXX: SOA Device

Package:

5: 14-pin Butterfly, Type B

6: 14-pin Butterfly, Type C

Fiber Type:

1: SM fiber

3: MM fiber

2: PM fiber

8: SM ClearCurve fiber*

Jacket Type:

1: 900 μ m

2: 250 μ m

Connector Type:

0: No Connectors

3: FC/APC

4: FC/UPC

7: SC/APC

8: SC/UPC

Example: IPSAD1301-5110: 1310nm SOA in 14-pin Butterfly Package with 900 μ m SM Fiber with no Connectors.

* SM ClearCurve fiber is not available on IPSAD0801, IPSAD0901 and IPSAD0902 products.

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