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Semiconductor Optical Amplifier Device (Booster Type)
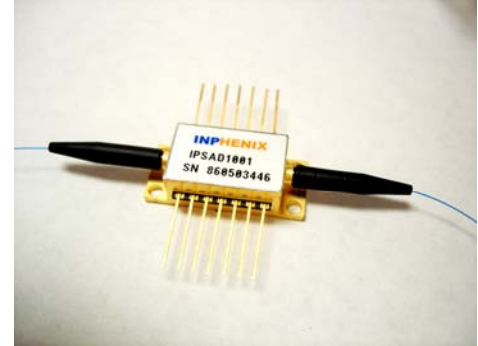
IPSAD1507 (1550nm)

Features

- Wide Optical Bandwidth
- High Output Power
- MQW or Bulk Structure

Applications

- Booster Amplifier
- Telecom and Datacom
- Loss Compensation

Device Specifications

Parameter	Symbol	Specifications			Unit
		Min.	Typ.	Max.	
Drive Current	I_F	-	700	-	mA
Operating Wavelength	λ_o	-	1550	-	nm
3dB Optical Bandwidth	$\Delta\lambda_{3dB}$	-	60	-	nm
Small Signal Gain at @ - 25dBm Signal	G_{max}	12	14	-	dB
Gain Ripple with Respect to λ	ΔG	-	-	1.5	dB
Saturation Output Power	P_{sat}	13	16	-	dBm
Noise Figure	NF	-	-	9	dB
Polarization Dependent Gain	PDG	10	-	-	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	-	1000	mA
SOA Reverse Voltage	-	2.5	V
TEC Drive Current	-	1.5	A
TEC Drive Voltage	-	3.6	V
Thermistor Resistance	10kΩ @ 25°C		
SOA Chip Temperature Setting	25°C		
Fiber Type	SMF/PMF/MMF ClearCurve Fiber		
Fiber Jacket	250µm tight buffer with/without 900µm loose tube, or 900µm tight buffer		
Package	14-pin Butterfly Type B or C		

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Package Dimensions
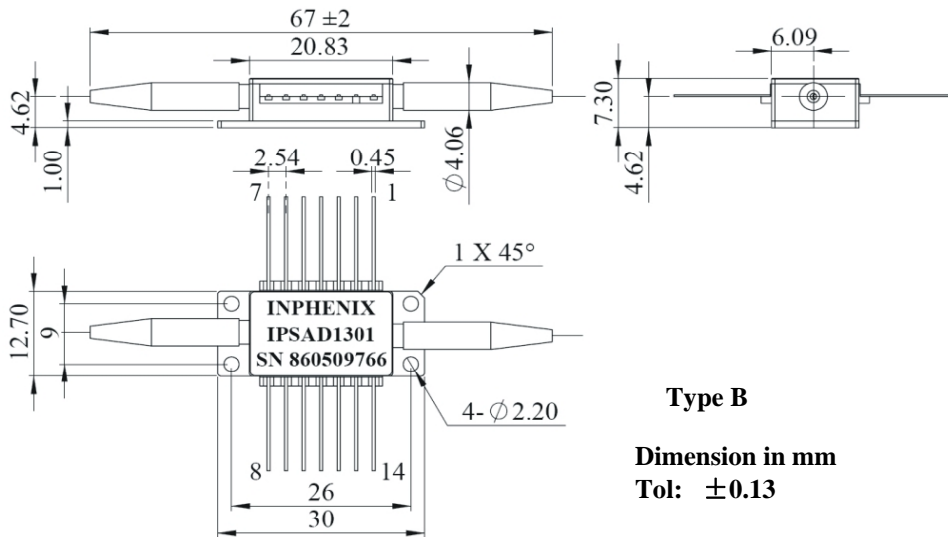
Type B

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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Unit: mm
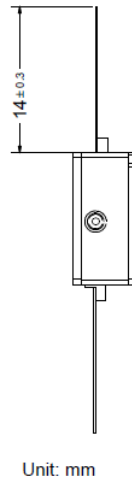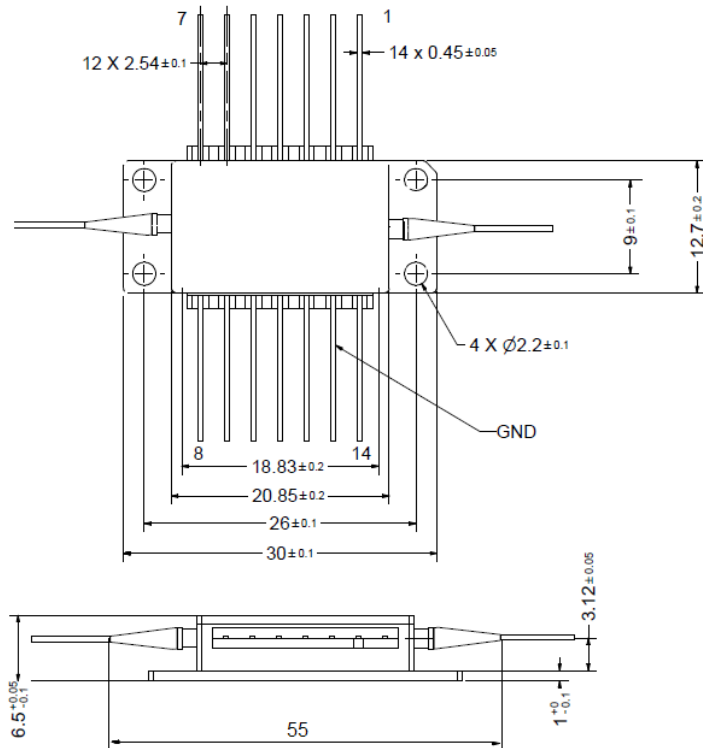
Type C

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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Part Numbering System
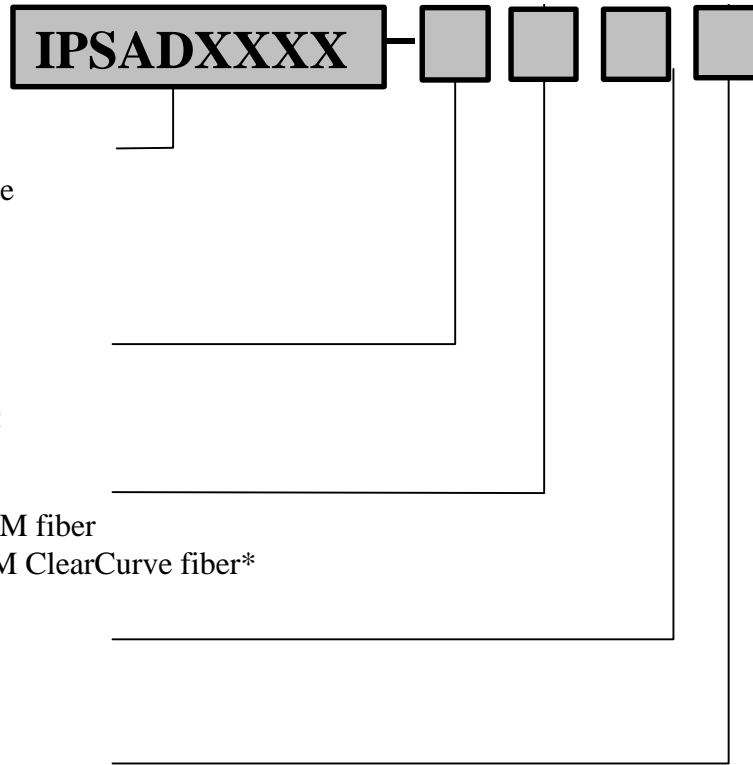
IPSADXXXX

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: 900μm
2: 250μm

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 900μm SM Fiber with no Connectors.

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