

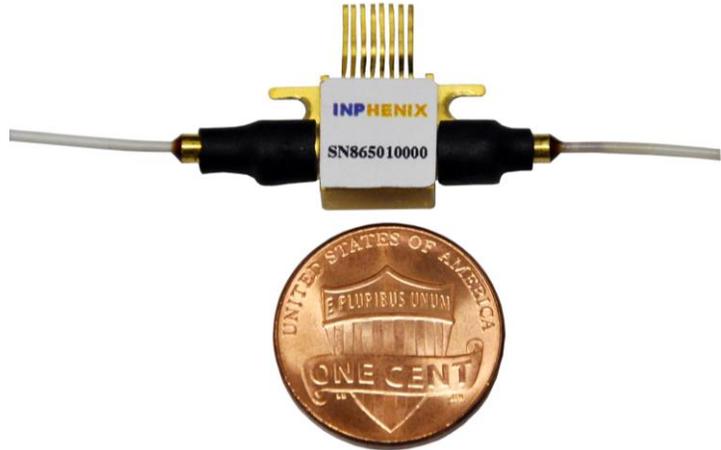
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Semiconductor Optical Amplifier Device (Pre-Amplifier Type)

IPSAD1309 (1310nm)

Features

- Wide Optical Bandwidth
- Low Noise Figure
- Low Polarization Sensitivity
- MQW design
- Gain Flatness over Wavelength
- Built-In Optical Isolator
- Mini 8-pin Butterfly Housing
- Fits in CFP 4 Transceiver



Applications

- Pre-Amplifier for Receiver
- Telecom and Datacom
- 40G and 100G Reach Extension

Device Specifications

Parameter	Symbol	Specifications			Unit
		Min.	Typ.	Max.	
Drive Current*	I_F	-	-	250	mA
Operating Wavelength	λ_o	1290	-	1315	nm
3dB Optical Bandwidth	$\Delta\lambda_{3dB}$	45	-	-	nm
Small Signal Gain at @ -25dBm Signal	G_{max}	15	-	-	dB
Saturation Output Power at 1310nm	P_{sat}	7	-	-	dBm
Polarization Dependent Gain	PDG	-	-	1.5	dB
Noise Figure	NF	-	-	7.5	dB
Optical Isolation	R_L	-	30	-	dB

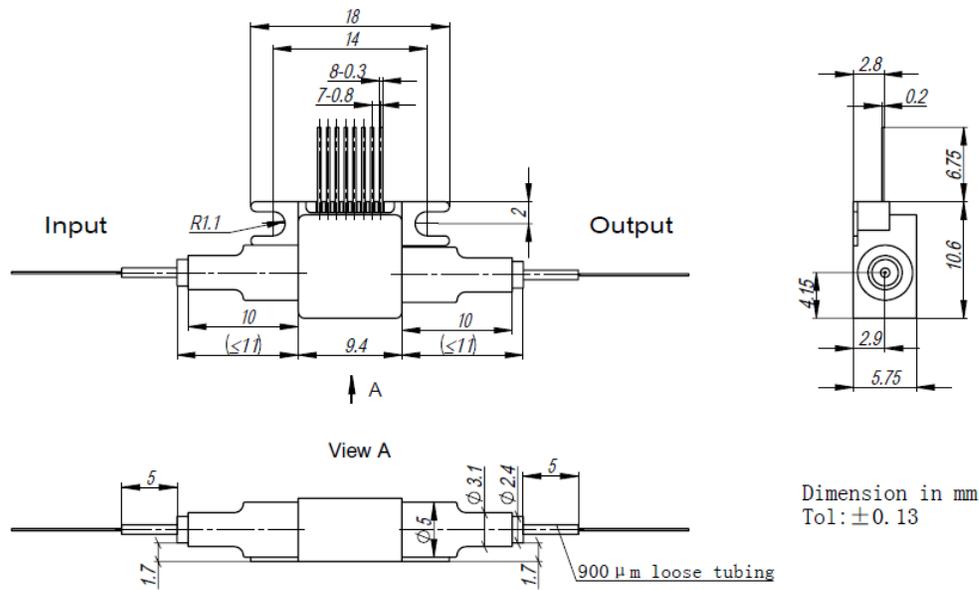
*: Target typical operating current is < 120mA.



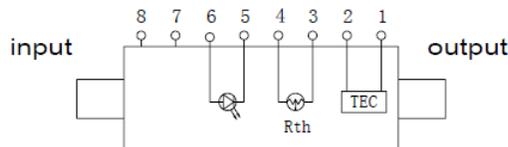
Absolute Maximum Ratings

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	10kΩ @ 25°C		
SOA Chip Temperature Setting	25°C		
Fiber Type	ClearCurve Fiber		
Fiber Jacket	250um tight buffer		
Package	8-pin Butterfly Type D		

Package Dimensions Type D



Dimension in mm
Tol: ±0.13

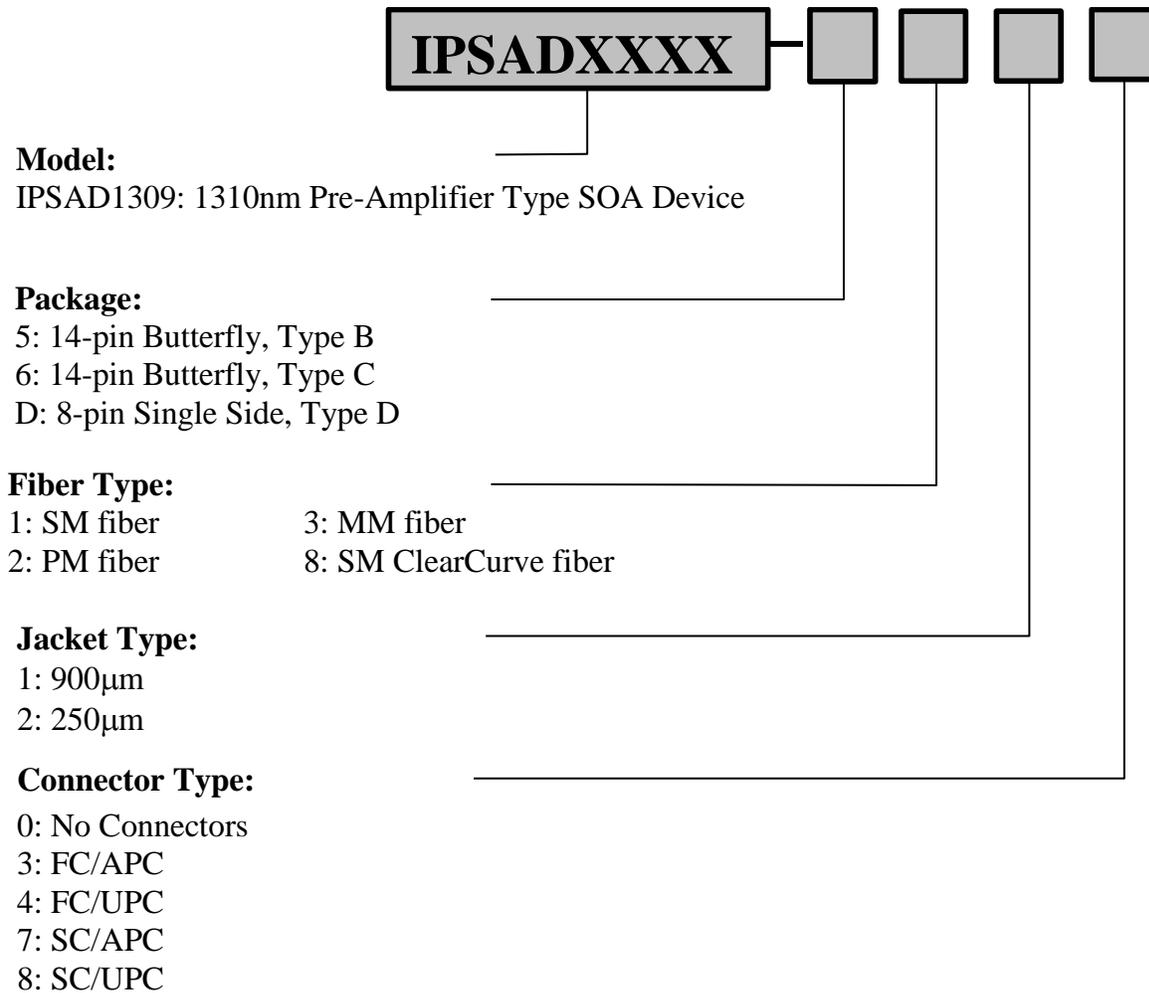


Pin	Definition
1	TEC Cathode
2	TEC Anode
3	Themistor
4	Themistor
5	SOA Cathode
6	SOA Anode
7	NC
8	NC

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Part Numbering System



Example: IPSAD1309-D820: Pre-Amplifier Type SOA in Type D Package with SM ClearCurve fiber with no Connectors.

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