

# INPHENIX

## Reflective Semiconductor Optical Amplifier

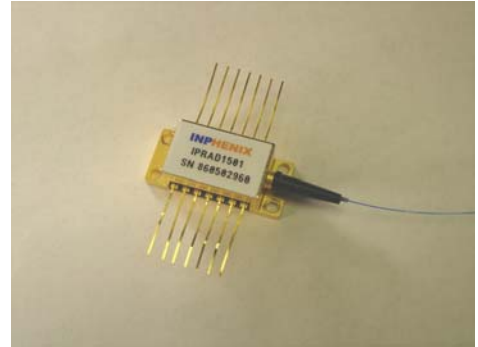
IPRAD1501 (1550nm)

### Features

- 1550nm & Custom Wavelengths Available
- Wide Operating Bandwidth
- High Gain and High Output Power
- Polarization Independent
- Custom design available

### Applications

- Gain Medium for single FBG Laser
- Gain Medium for Tunable External Cavity Laser
- WDM-PON



### IPRAD1501 Reflective Semiconductor Optical Amplifier

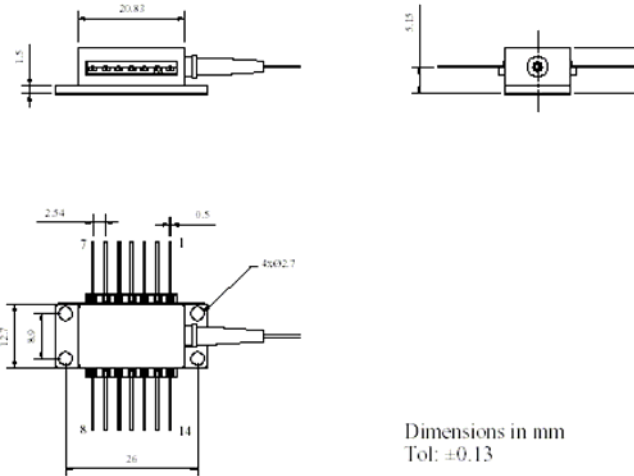
Parameter	Symbol	Specifications			Unit
		Min.	Typ.	Max.	
Drive Current	$I_F$	-	100	150	mA
Operating Wavelength	$\lambda_p$	1500	1550	1570	nm
3dB Optical Bandwidth	$\Delta\lambda_{3dB}$	-	32	-	nm
Small Signal Gain @ -25dBm Signal	$G_{max}$	15	18	-	dB
Gain Ripple with Respect to $\lambda$	$\Delta G$	-	1	3	dB
Saturation Output Power	$P_{sat}$	3	6	-	dBm
Noise Figure	NF	-	7	9	dB
Polarization Dependent Gain	PDG	-	1	2	dB

### Absolute Maximum Ratings

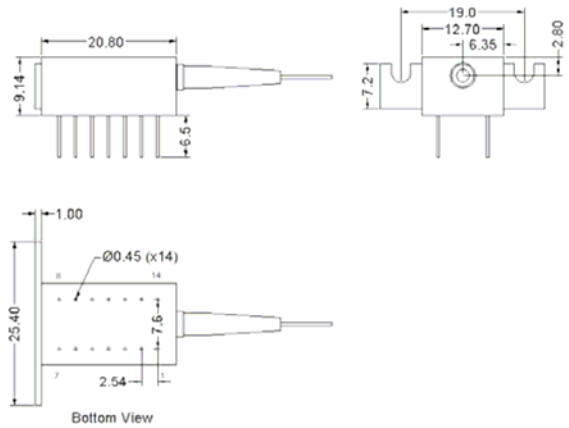
Parameter	Min.	Max.	Unit
Operating Temperature	-20	70	°C
Storage Temperature	-40	85	°C
TEC Drive Current	-	1.5	A
TEC Drive Voltage	-	3.6	V
Max. Current	200		mA
Thermistor Resistance	10k $\Omega$ @ 25°C		
SOA Chip Temperature Setting	25°C		
Fiber Type	SMF/PMF/MMF		
Fiber Jacket	250 $\mu$ m tight buffer with/without 900 $\mu$ m loose tube, or 900 $\mu$ m tight buffer		

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## Package Dimensions



**14-Pin BUT Package**



**14-Pin DIL Package**

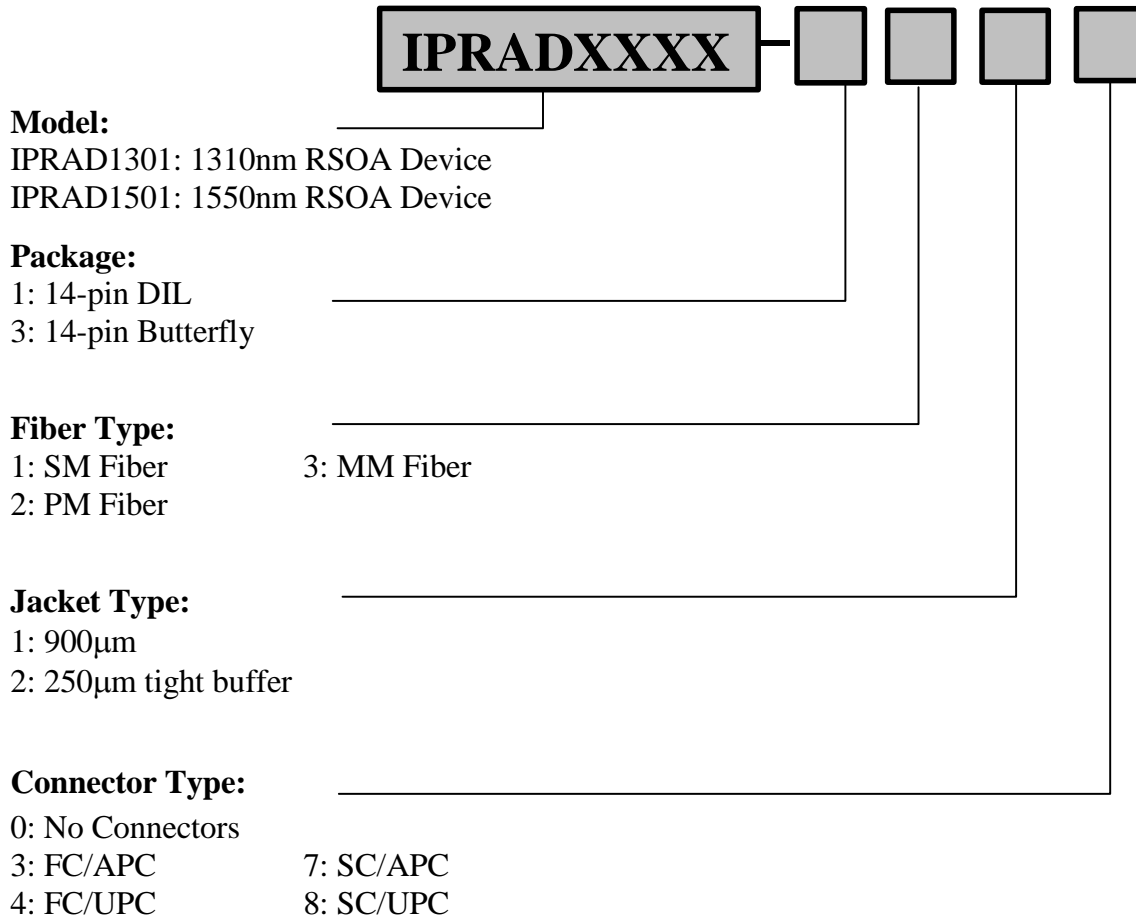
Dimensions in mm  
Tol: ±0.13

## Pin Definition

14-pin BUT package				14-pin DIL package			
Pin	Function	Pin	Function	Pin	Function	Pin	Function
1	TEC(+)	8	NC	1	TEC(+)	8	NC
2	Thermistor	9	NC	2	NC	9	RSOA (-)
3	NC	10	RSOA (+)	3	NC	10	Case
4	NC	11	RSOA (-)	4	NC	11	Thermistor
5	Thermistor	12	NC	5	RSOA (+)	12	Thermistor
6	NC	13	Case	6	NC	13	NC
7	NC	14	TEC(-)	7	NC	14	TEC(-)

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## Part Numbering System



**Example:** IPRAD1301-1224: 1310nm RSOA in 14-pin DIL with 250 $\mu$ m tight buffered PM fiber with FC/UPC connectors

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