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Semiconductor Optical Amplifier Device (Wavelength Conversion-type)

IPSAD1303/ IPSAD1503 (1310nm/1550nm)

Features

- Wide Optical Bandwidth
- High Optical Gain
- Low Polarization Sensitivity
- Low Facet Reflectivity



Applications

- Wavelength Conversion
- All Optical Router without OEO Conversion
- 2R Regeneration/3R Regeneration

IPSAD1303 WC-type SOA Device Specifications

Parameter	Symbol	Specifications			Unit
		Min.	Typ.	Max.	
Drive Current	I_F		250		mA
Operating Peak Wavelength	λ_p	1280		1340	nm
3 dB Optical Bandwidth	$\Delta\lambda_{3dB}$	50			nm
Small Signal Gain at λ_p @ -25 dBm Signal	G_{max}	18			dB
Gain Ripple with respect to λ	ΔG		0.5	1.0	dB
Saturation Output Power	P_{sat}		6		dBm
Noise Figure	NF		9		dB
Polarization Dependent Gain	PDG		0.5	1.0	dB

IPSAD1503 WC-type SOA Device Specifications

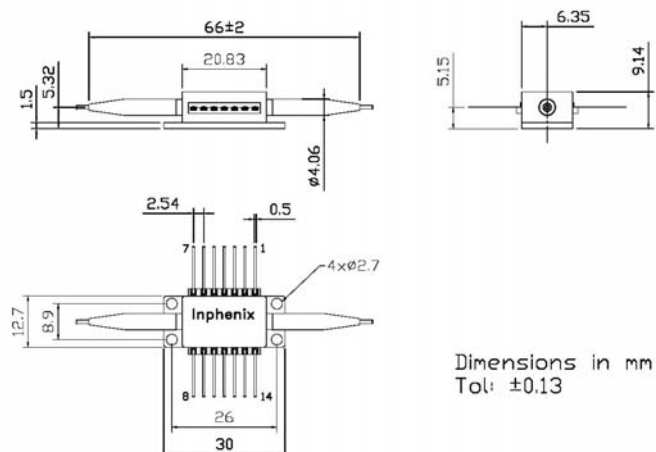
Parameter	Symbol	Specifications			Unit
		Min.	Typ.	Max.	
Drive Current	I_F		250		mA
Operating Peak Wavelength	λ_p	1510		1570	nm
3 dB Optical Bandwidth	$\Delta\lambda_{3dB}$	50			nm
Small Signal Gain at λ_p @ -25 dBm Signal	G_{max}	16			dB
Gain Ripple with respect to λ	ΔG		0.5	1.0	dB
Saturation Output Power	P_{sat}		5		dBm
Noise Figure	NF		9		dB
Polarization Dependent Gain	PDG		0.5	1.0	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		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-

IPSAD1303: 1310nm Wavelength Conversion-type SOA Device
 IPSAD1503: 1550nm Wavelength Conversion -type SOA Device

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: IPSAD1303-110: 1310 nm Wavelength Conversion-type SOA in 14-pin Butterfly Package with 900 μ m SM Fiber with no Connectors.

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