

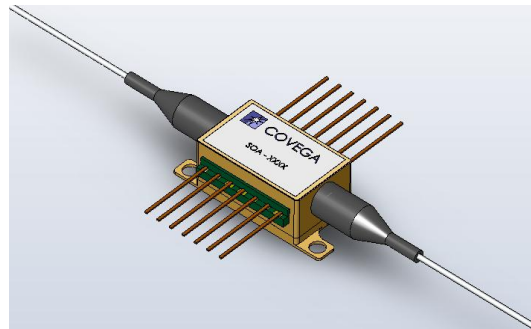
SOA 1013: 1550nm C-band Semiconductor Optical Amplifier

7.1.2.SP.1013 Rev E

Description

COVEGA's 1013 SOA is a polarization insensitive optical amplifier housed in a standard 14-pin butterfly package. Advanced epitaxial wafer growth and opto-electronic packaging techniques enable high output saturation power, low noise figure, and large gain across a broad spectral bandwidth.

Packaging options include input and output optical isolators, SMF and PMF fiber tails and choice of connectors.



Features

Applications

- ✓ Optical Booster and In-line Amplification in WDM Metro Network Systems
 - ✓ Optical Loss Compensator
 - Channel Launch (Modulator)
 - Mid-Stage (Add/Drop)
 - ✓ Pre-Amplifier
 - ✓ High Speed optical on/off switch
- High Fiber-to-Fiber Gain
 - Broad Spectral Bandwidth
 - High Fiber-to-Fiber Gain

Specifications

CW; T (Chip) = 25°C, T (Case) = 0 - 70°C

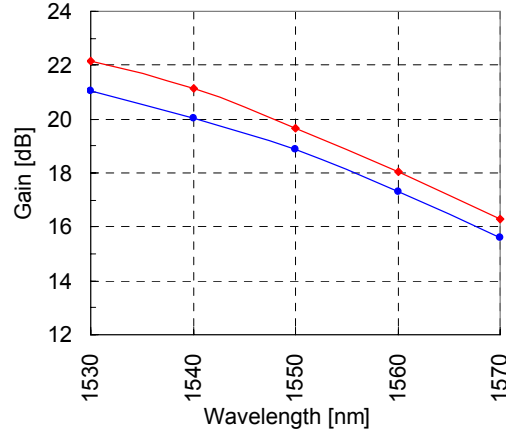
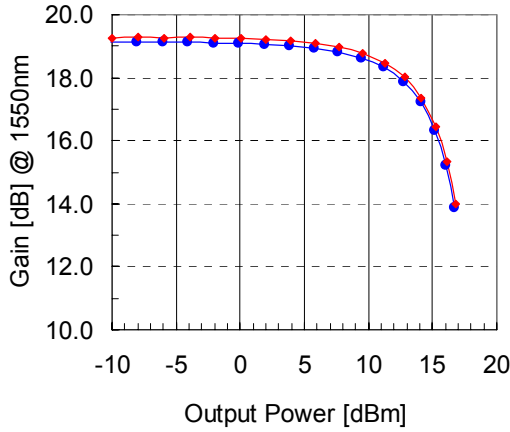
Parameter		Min	Typ	Max	
Operating Current	I_{OP}		500	600	mA
Operating Wavelength Range: C-band	Λ	1528		1562	nm
Peak Wavelength	λ_C	1480	1500	1520	nm
Optical 3 dB Bandwidth	BW	70	74		nm
Saturation Output Power @ -3 dB	P_{SAT}	12	14		dBm
Small Signal Gain over C-band Λ @ Pin = -20 dBm	G	10	13		dB
Gain Flatness over C-band Λ @ Pin = -20 dBm	ΔG		5	7	dB
Gain Ripple (p-p) @ I_{OP}, λ_C	δG		0.1	0.5	dB
Polarization Dependent Gain	PDG		1.0	1.5	dB
Noise Figure	NF		8	9.5	dB
Forward Voltage	V_F		1.6	1.8	V
TEC Operation (typ / max @ $T_{CASE} = 25^\circ C / 70^\circ C$)					
- TEC Current	I_{TEC}		0.23	1.5	A
- TEC Voltage	V_{TEC}		0.5	3.5	V
- Thermistor Resistance	R_{TH}		10K		Ω

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

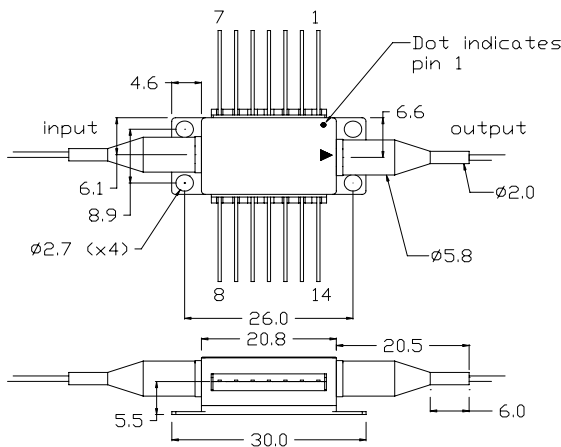
The picture is a representation. The actual part may vary from the one shown.

SOA 1013

Performance



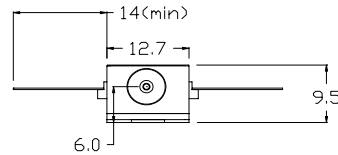
Packaging



PIN IDENTIFICATION

- | | |
|---------------|-----------------|
| 1. TEC + | 14. TEC - |
| 2. Thermistor | 13. Case |
| 3. NC | 12. NC |
| 4. NC | 11. SDA Cathode |
| 5. Thermistor | 10. SDA Anode |
| 6. NC | 9. NC |
| 7. NC | 8. NC |

Recommended mounting torque is 10-20oz.in (0.07-0.14N.m).



all dimensions in mm

Ordering Information

SOA 1013 - X - 0 - X - X - X - X - X							
X	0	X	X	X	X	X	Numeric
Isolator	Reserved	Fiber jacket configuration*	Input Fiber	Output Fiber	Input Connector	Output Connector	Reserved
0 = none		U = SMF-8, loose tube	S = SMF	S = SMF	A = FC/APC	A = FC/APC	
1 = input only		T = SMF-28, tight jacket	P = PMF#	P = PMF#			
2 = output only		V = PMF 1550 nm, loose tube#					
3 = input & output							

#Isolators are available only on SM fiber configurations
 * see separate fibertail options datasheet