

Semiconductor Optical Amplifier Devices (SOAD)-Series

Product Description: The SOAD fiberoptic amplifiers at 1310nm and 1550nm are designed by using a high quality angled SOA chip and a TEC which can assure a stable amplified output for a large dynamic input signal. The devices are available in a standard, 14-pin butterfly package at the 1310nm and 1550nm bands. The SOA devices have high optical gain, high saturation output power, low polarization dependent loss, low noise figure and broad wavelength range. We have options of optical isolators for input and/or output side as well as output fibers of SM fibers, PM fibers and other special fibers per customer specifications. The products are Telcordia GR-468 qualified, and in compliance with RoHS requirement.

Applications

- Loss compensation for fiberoptic connection and switch
- WDM fiberoptic networks
- 100G fiberoptic data center

Features

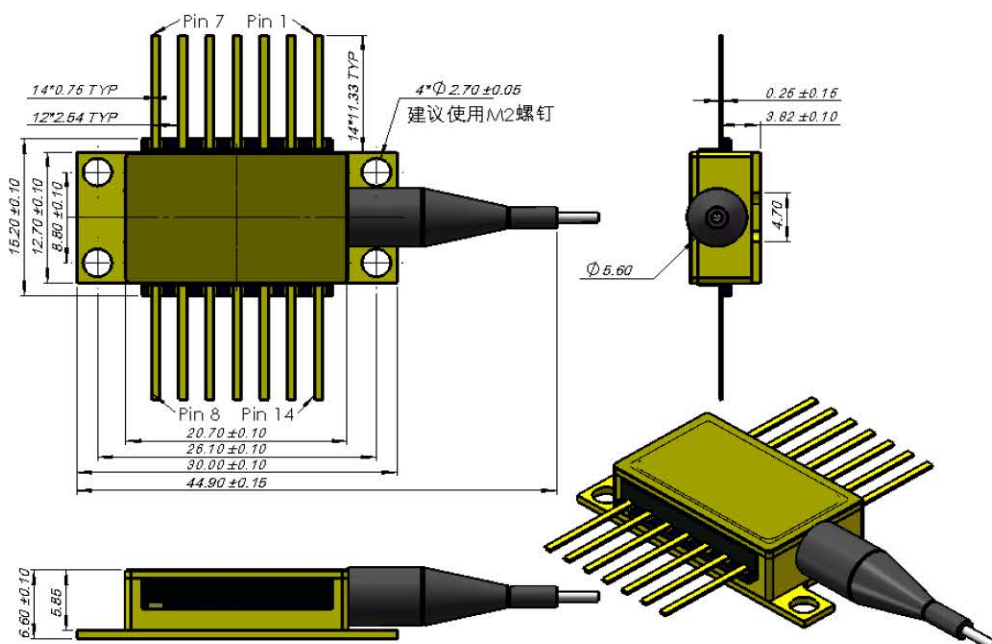
- Wide optical wavelength range
- High saturation output power
- Low polarization sensitivity
- Low gain ripple and NF
- MQW design



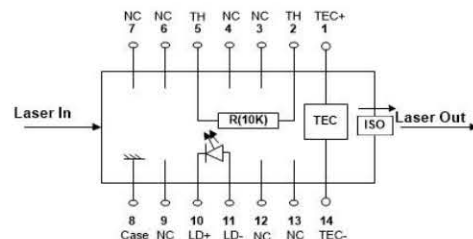
Optical and Electric Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Center Wavelength(1310nm)	λ_c	1290	1310	1330	nm
Center Wavelength(1550nm)	λ_c	1530	1550	1570	nm
3dB Optical Bandwidth	$\Delta\lambda_{3dB}$	-	55	-	nm
Small Signal Gain at @ - 25dBm Signal	G_{max}	13	16	-	dB
Gain Ripple (p-p) @ Iop, λ_c	ΔG	-	0.5	1.0	dB
Saturation Output Power(1310nm@ -3 dB)	P_{sat}	10	12	-	dBm
Saturation Output Power(1550nm@ -3 dB)	P_{sat}	8	10	-	dBm
Polarization Dependent Gain	PDG	-	0.5	1.0	dB
Noise Figure	NF	-	10	-	dB
Forward Current	I_F	-	400	600	mA
Laser Reverse Voltage	V_R	-	-	2.5	V
TEC set temperature	T_s	15	-	35	°C
TEC Current	I_{TEC}	-	1.0	1.5	A
TEC Voltage	V_{TEC}	-	2.8	3.7	V
Thermistor Resistance@25°C	R_{TH}	9.5	10	10.5	k Ω
Optical Isolation	ISO	30	-	-	dB
Operating temperature	Top	-20	-	70	°C
Storage Temperature	Ts	-40	-	85	°C

Mechanical Dimensions:



PIN Definition:



1	Thermoelectric Cooler (+)
2	NC
3	Thermistor
4	Thermistor
5	NC
6	NC
7	NC
8	Case Ground
9	NC
10	SOA Anode (+)
11	SOA Cathode (-)
12	NC
13	NC
14	Thermoelectric Cooler (-)

Ordering Information								
SOAD-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Wavelength	Polarization Type	Input Fiber Type	Input Pigtail Type	Output Fiber Type	Output Pigtail Type	Pigtail length	Connector
SOAD-	31:1310nm	1:Inline,polarization insensitive	S: SM Fiber	0:250um fiber	S:SM Fiber	0:250um fiber	1:50cm	0:None
	55:1550nm	2:Booster,single polarization	P: PM Panda Fiber	1:0.9mm tube	P: PM Panda Fiber	1:0.9mm tube	2:100cm	1:FC/UPC
			C: Customize	C: Customize	C: Customize	C: Customize	3:150cm	2:FC/APC
							4:200cm	3:SC/UPC
							C:Customize	4:SC/APC
								5:LC/UPC
								6:LC/APC
								C:Customize
Example of Ordering Form: SOAD-311S1S122								
SOAD-	31	1	S	1	S	1	2	2
	1310nm	Inline,polarization insensitive	SM Fiber	0.9mm tube	SM Fiber	0.9mm tube	100cm	FC/APC

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