

# Customized 1310nm Semiconductor Optical Amplifier (SOA)

Solutions for Metro, Regional & Long Haul



## Description

Semiconductor optical amplifier (SOA) uses the semiconductor as the gain medium, which are designed to be used in general applications to increase optical launch power to compensate for loss of other optical devices. Inimitable AGC or APC circuit ensures the stability of output power.

The optical circuit is specifically designed for digital optical fiber communication systems and has the following characteristics.

- (1) Covers a low dispersion wavelength of 1310 nm
- (2) A wide range of input power; output power is adjustable

## Features

- OEM available
- High-precision APC & AGC circuit
- High saturated output power
- Bellcore GR-1312-CORE compliant
- Ethernet, RS-485 and RS-232 interface
- Flexible mechanical and circuit structure
- Support Telnet and SNMP network management

## Application

- 100G optical transmission system

## Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
<b>Wavelength</b>	$\lambda_c$	1290	1310	1330	nm
<b>Saturated output power</b>	$P_o$	-----	-----	8	dBm
<b>Input Power</b>	$P_i$	-20	-----	6	dBm
<b>Gain</b>	G	-----	10	14	dB
<b>Noise Figure</b>	NF	-----	6	8	dB
<b>Output power stability</b>	$\Delta P_o$	-----	$\pm 0.05$	$\pm 0.1$	dB
<b>Return Loss</b>	RL	-----	-----	-45	dB
<b>Polarization Dependent Gain</b>	PDG	-----	-----	0.3	dB
<b>Polarization Mode Dispersion</b>	PMD	-----	-----	0.5	ps

## Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
<b>Power Voltage</b>	$V_{ps}$	85/170	110/220	132/264	VAC
<b>Power Consumption</b>	P	-----	-----	18	W

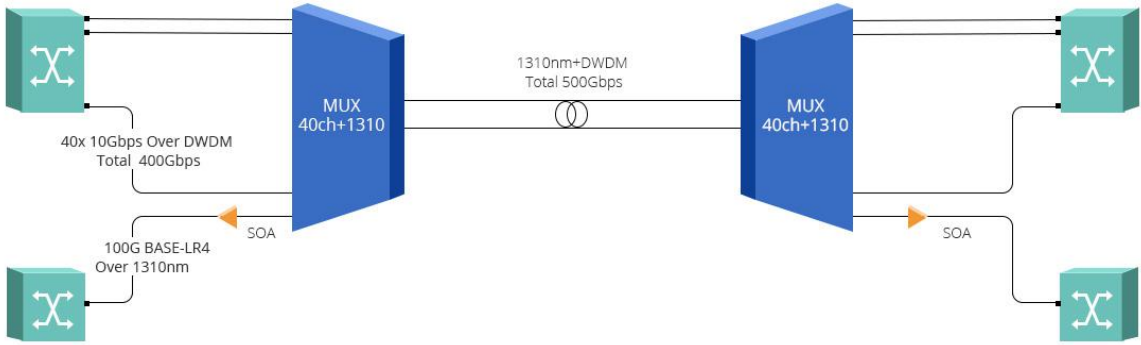
## Environmental Characteristics

Operation	Symbol	Min	Typ	Max	Unit
<b>Operation Temperature</b>	$T_w$	-5	-----	60	°C
<b>Storage Temperature</b>	$T_s$	-40	-----	80	°C
<b>Humidity (1)</b>	-----	10	-----	85	%

(1) No condensation

## 500Gbps DWDM Network Service by SOA Amplifier

SOA (Semiconductor Optical Amplifier), implemented between the 1310nm multiplexer port and the LR4 transceiver, are amplifying the 1310nm spectrum. It can be used in the 10G/100G system, suitable for system design conveniently.



### Order Information

<b>Operation Mode</b>	AGC & APC
<b>Input Power</b>	-20dBm~+6dBm
<b>Typical Input Power</b>	-3dBm -5dBm -6dBm -4dBm -2dBm
<b>Saturated Output Power</b>	8dBm
<b>Gain</b>	10dB 11dB 12dB 13dB 14dB
<b>Connector</b>	LC/UPC SC/UPC FC/UPC ST/UPC LC/APC SC/APC FC/APC ST/APC
<b>Power 1</b>	100V-240VAC 36V-72VDC
<b>Power 2</b>	100V-240VAC 36V-72VDC None

\*Customized specifications are available upon request.



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