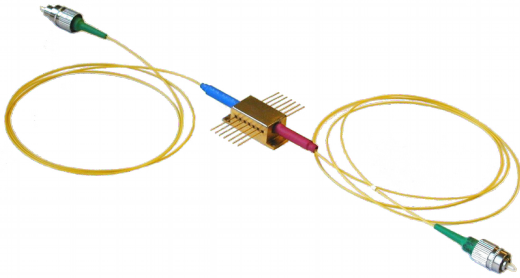


Semiconductor Optical Amplifier 680nm



SOA-680-14BF Semiconductor Optical Amplifier (SOA) is single-pass, traveling-wave amplifier that perform well with both monochromatic and multi-wavelength signals. The SOA consists of a highly efficient Multiple Quantum Well (MQW) layer structure.

Key Features

- Single mode input/output
- Low chip-to-fiber coupling loss
- CW or pulsed operation
- SM or PM Fiber ($\varnothing 0.9\text{mm}$)
- FC-APC connectors
- 14-pin butterfly package
- Built-in thermistor and TEC
- Low power consumption

Optical and electrical characteristics: ($T = 25^\circ\text{C}$)

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Fiber to fiber Gain	G	CW, $I_F = 200\text{mA}$	20	24	28	dB
Forward Current	I_F			200	250	mA
Forward Voltage	V_F				2.7	V
Center Wavelength	λ_c	CW, $I_F = 200\text{mA}$	670	680		nm
Spectral Width	$\Delta\lambda$	CW, $I_F = 200\text{mA}$	6	8		nm
Saturation Power	P_S	CW, $I_F = 200\text{mA}$	7	8	9	dBm
Noise Figure	NF	CW, $I_F = 200\text{mA}$	7	8	9	dB
Gain Ripple	δG	CW, $I_F = 200\text{mA}$		1	2	dB
Polarization	PDG	CW, $I_F = 200\text{mA}$		10		dB
Dependent Gain						
Cooler Voltage	V_C	$I_F = \text{EOL}$, $T_C = 70^\circ\text{C}$			2.7	V
Cooler Current	I_C	$I_F = \text{EOL}$, $T_C = 70^\circ\text{C}$			1.4	A
Thermal Resistance	R_θ	$T_{LD} = 25^\circ\text{C}$, $B = 3900 \pm 100\text{K}$	9.5	10.0	10.5	k Ω

Absolute Maximum Ratings

Item	Symbol	Rating	Unit
LD Forward Current	I_f	300	mA
LD Reverse Voltage	V_r	1.8	V
Operation Case Temperature	T_c	-20 to +70	°C
Storage Temperature	T_{stg}	-20 to +85	°C
Cooler Current	I_c	1.4	A

PACKAGING

No.	FUNCTION	No.	FUNCTION
1	Cooler anode	8	NC
2	Thermistor	9	NC
3	NC	10	LD anode
4	NC	11	LD cathode
5	Thermistor	12	NC
6	NC	13	Case
7	NC	14	Cooler cathode

