

Digi-OA-710 Semiconductor Optical Amplifier

Description

The Digi-OA-710 semiconductor optical amplifier address new areas in the optical amplification market. The technology is based on well-known semiconductor laser technology and packaging techniques, and offers a low-cost alternative to conventional fiber amplifier solutions. SOA can operate at any wavelength for the 1550nm window and it is very suitable for use in 40G/100G signal amplifying.

The devices are packaged in a butterfly package providing high coupling efficiency, low polarization sensitivity, and high saturation output power. In-line DIGI-OA-710 can be used to extend telecommunication links by providing 18 -25 dB gain, < 1.5 dB polarization sensitivity, and 10dBm saturation power. Amplification of both continuous wave (CW) signals and modulated signals is possible.

Features

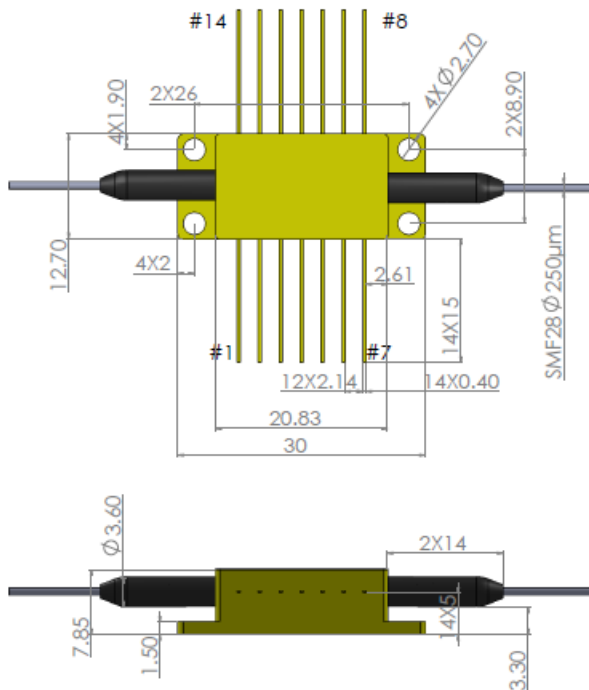
- 40G and 100G C-Band amplifiers
- 14-Pin MSA package
- Low Noise Figure & Low polarization dependence
- >1m SMF-28 250μm fiber with FC/APC connector

Specification

Parameter	Symbol	Min	Typ	Max	Unit	Note
Case Operating Temperature Range	T_{case}	-15		65	°C	$T=25\text{ }^{\circ}\text{C}$, $I_F=200\text{mA}$
Storage Temperature	T_{store}	-40		85		
Forward Current	I_F		200	350	mA	
Reverse Voltage	V_{REV}			2	V	
Fiber pigtail bending radius	R	35			mm	

Tensile strength fiber to case	F			5	N	
Gain bandwidth	BW	80			nm	3dB bandwidth
Gain	G	18			dB	
Gain Ripple	ΔG		0.5	1	dB	
3dB saturation output power	P_{3dB}	8	10		dBm	
Polarization dependent gain	PDG		1.5	2	dB	
Optical noise figure	NF		7.5	9	dB	Notes: Including 3dB coupling loss
Gain peak wavelength	λ		1550		nm	
Forward Voltage	V_F			2.5	V	
Thermistor resistance	R	9.5	10	10.5	k Ω	
Cooler current	I_{cool}		1.1	1.5	A	
Cooler voltage	V_{cool}		3.0	3.7	V	

Dimensions and PIN



Pin Assignments			
1	TEC (+)	14	TEC (-)
2	Thermistor	13	Case Ground
3	NC	12	NC
4	NC	11	Chip (-)
5	Thermistor	10	Chip (+)
6	NC	9	NC
7	NC	8	NC