

Features

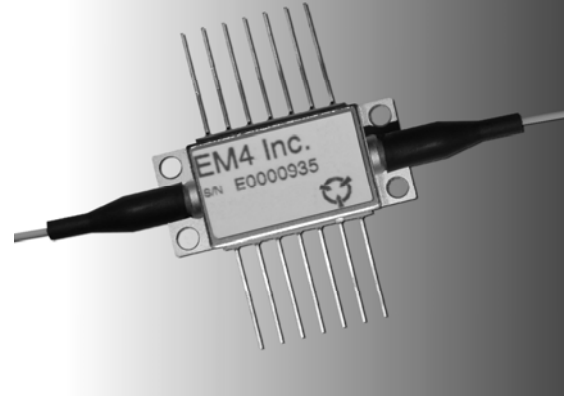
- 1550nm operation
- 30dB Gain
- Low saturation output power
- Fast Gain recovery time
- Low saturated PDG
- Temperature controlled

Applications

- All optical processing
- Wavelength conversion
- Cross-phase modulation
- Cross gain modulation
- Four-wave mixing

General Description

The non-linear Semiconductor Optical Amplifier (SOA) is optimized for high gain and fast gain recovery providing fast optical switching speeds. It is available in a 14-pin butterfly package with a thermistor, thermo-electric cooler and single mode fiber pigtailed. The product is appropriate in wavelength converter or four wave mixing applications.



Ordering Information

Part Number	Fiber type	Connector
EM375-01	SMF28	FC/APC
EM375-02	SMF28	SC/APC

Absolute Maximum Ratings

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and operation of the device at these or conditions beyond these are not implied. Exposure to absolute maximum ratings for extended periods of time may affect device reliability.

Parameter	Sym	Condition	Min	Max	Unit
Storage Temperature	T _{STG}		10	70	°C
Operating Case Temperature	T _{OP}		15	40	°C
SOA Forward Current	I _F			400	mA
SOA Forward Voltage	V _F			3	V
SOA Reverse Voltage	V _R			2	V
Maximum Optical Input Power	P _{MAX}			13	dBm
TEC Current	I _{TEC}			2	A
TEC Voltage	V _{TEC}			3.6	V
Thermistor Current				2	mA
Thermistor Voltage				5	V
Lead Soldering Time				10	s
Lead Soldering Temperature				220	°C
ESD		HBM		500	V

For pricing and delivery information, please contact EM4 inc. direct at +1 781 275 75 01, sales@em4inc.com or any of the representatives listed at www.em4inc.com.

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Optical And Electrical Characteristics

T_C=25°C unless otherwise specified.

Parameter	Sym.	Condition	Min	Typ.	Max	Unit
Small Signal Gain		I _F <300mA	25	30		dB
Polarization Dependent Saturated Gain	PDG	I _F =300mA, P _{IN} >0dBm		0.5	1	dB
Saturated Output Power	P _{SAT}	I _F =200mA	6			dBm
Gain Peak		I _F =200mA	1550		1570	nm
Saturated Gain Recovery Time		1/e, I _F =300mA, P _{IN} >0dBm, 1550nm			25	ps

Fiber Specification

Parameter	Typ.	Unit
Fiber Type	SMF28	-
Connector Type	See P1	-
Core Diameter	8	μm
Outer Diameter	125	μm

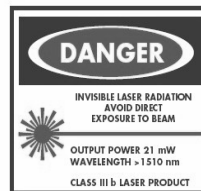
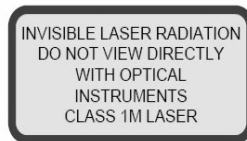
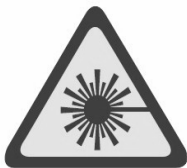
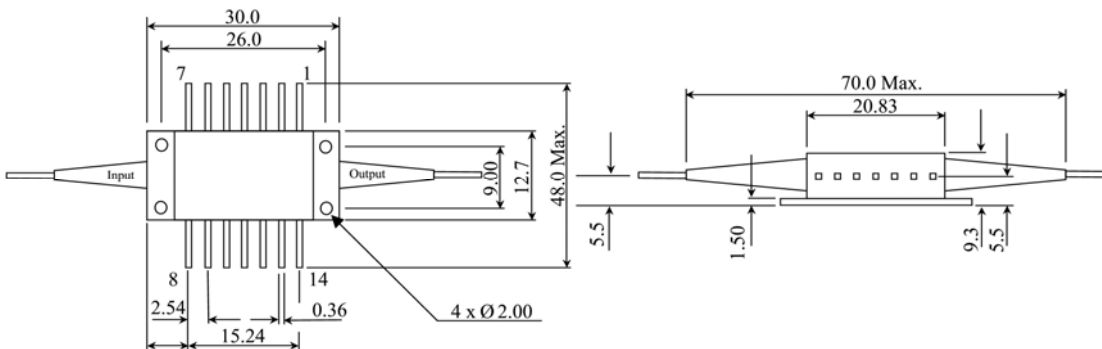
Pinning

Parameter	Typ.	Unit
Buffer Diameter	900	μm
Buffer Material	Acrylate	-
Minimum Pigtail Length	1	m
Minimum Bend Radius	35	mm

Pin	Description
1	Cooler +
2	Thermistor
3	Case GND
4	NC
5	Thermistor
6	Case GND
7	NC
8	NC
9	NC
10	SOA Anode
11	SOA Cathode
12	Case GND
13	Case GND
14	Cooler -

Mechanical Drawing

All units in mm



The component complies with all applicable portions of 21 CFR 1040.10, 21 CFR 1010.2 and 21 CFR 1010.3. Since this is a component, it does not comply with all of the requirements contained in 21 CFR 1040.10 and 21 CFR 1040.11 for complete laser products.

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