

Features

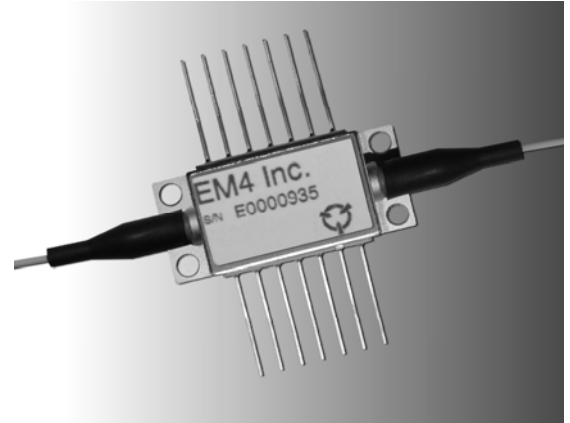
- 1550nm operation
- High saturated output power (>14dBm)
- Low noise figure (<7.5dB)
- Low ASE ripple (<0.2dB)
- Low polarization dependence (<1dB)
- Temperature controlled

Applications

- Power booster (DWDM & CWDM networks)
- Transmission amplifier
- OADM Gain block
- Access PON amplifier

General Description

The Linear SOA is optimized for moderate gain, low noise and high saturated output power. It utilizes proprietary InP buried heterostructure design and is available in a 14-pin butterfly package with a thermistor, thermo-electric cooler and single mode fibre pigtailed.



Ordering Information

| Part Number | Fiber type | Connector |
|-------------|------------|-----------|
| EM374-01 | SMF28 | FC/APC |
| EM374-02 | 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 | | | 600 | 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 |
|-----------------------------|------------------|-----------------------|-----|------|-----|------|
| Gain | | I _F =500mA | 10 | 14 | | dB |
| Polarization Dependent Gain | PDG | I _F =500mA | | 1 | | dB |
| Saturated Output Power | P _{SAT} | I _F =500mA | | 16 | | dBm |
| Noise Figure | | I _F =500mA | | 6.5 | 7.5 | dB |
| ASE Ripple | | I _F =500mA | | | 0.2 | dB |

Fiber Specification

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

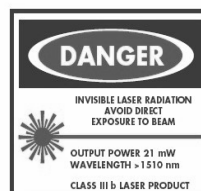
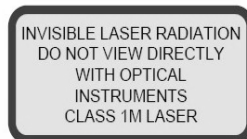
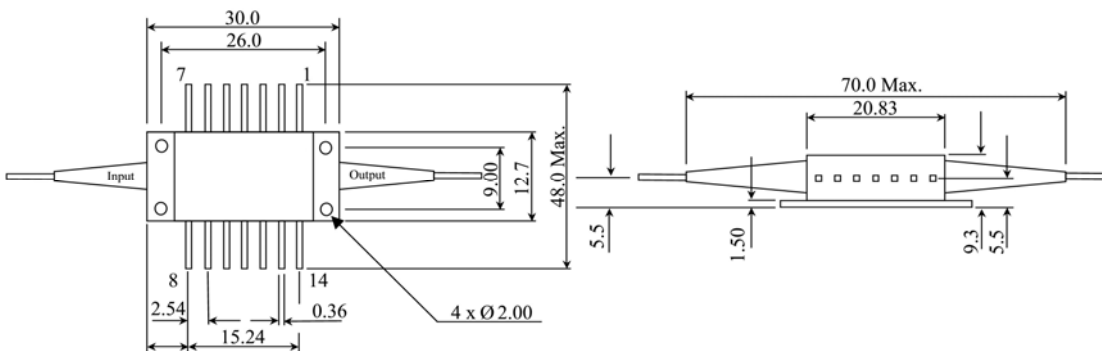
Pinning

| 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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