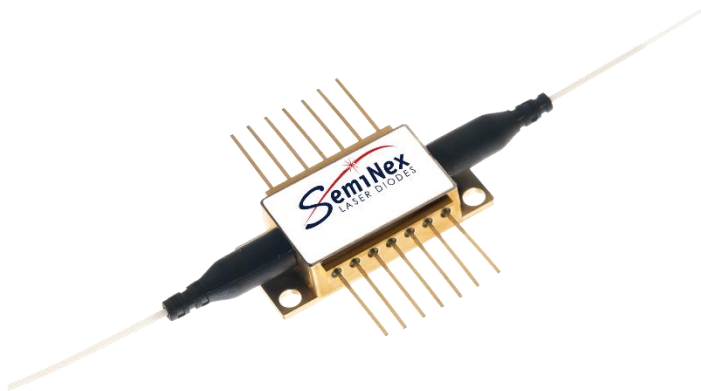


High Power SOA 14-Pin Butterfly

SemiNex offers High-Power Semiconductor Optical Amplifier (SOA) in 14-Pin Butterfly package. It provides high gain and high performance at cost-effective package for amplifying single mode coherent lasers. Our proprietary epitaxy and SOA waveguide design can achieve high-gain and high-saturation output power for Data Centers and Optical Communications. The 14-Pin Butterfly includes C-band, O-band, and L-Band wavelength ranges.

Key Benefits

- High Saturation Output Power
- High Small Signal Gain
- Standard SOA Butterfly
- Built-In Optical Isolator
- PM Fibers
- Mid-power SOA for Pre-Amp available
- Short pulse application, rise and fall time @ 1 nsec



Applications

- Optical Communications
- Data Centers
- Coherent LiDAR



| Optical | Symbol | 14BF-290/ 14BF-290O | 14BF-287/ 14BF-287C | 14BF-287-001/ 14BF-287C-001 | 14BF-311 | 14BF-291 | 14BF-315L | Units |
|--------------------------|-------------|------------------------|------------------------|--------------------------------|----------|----------|-----------|--------------|
| Center Wavelength | λ_c | 1280/1310 | 1520/1550 | 1520/1550 | 1310 | 1550 | 1595 | nm |
| Output Power @1A | P_{out} | 23 | 23 | 23 | 17 | 17 | 23 | dBm |
| Return Loss (In) | | 40 | 40 | 40 | 38 | 38 | 40 | dB |
| Return Loss (out) | | 50 | 50 | 50 | 50 | 50 | 50 | dB |
| 3dB Bandwidth | BW | 80 | 80 | 80 | 80 | 80 | 80 | nm |
| Gain @ Pin = 10 μ W | G | 32 | 30 | 30 | 15 | 15 | 30 | dB |
| Noise Figure | NF | 6 | 6 | 6 | 5 | 5 | 6 | dB |
| Rise and Fall Time | | - | - | 1 | - | - | - | nsec |
| Electrical | Symbol | | | | | | | Units |
| Operating Current | I_{op} | 1 | 1 | 1 | 0.5 | 0.5 | 1 | A |
| Operating Voltage | V_{op} | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | V |
| Optical Fiber | Symbol | | | | | | | Units |
| Fiber Core | | 8 | | | | | | μ m |
| Fiber Type | | 900 μ m jacket | | | | | | |
| Connector Type | | FC / APC | | | | | | |
| Fiber Length | | 1 | | | | | | m |
| Pinout Type | | Type 1 | | | | | | |
| Thermistor | | | | | | | | |
| Thermistor Constant | β | 3950 | | | | | | β |
| Thermistor Resistance | R | 10 | | | | | | K ohm |
| Voltage (TEC) – Typ, Max | V_{TEC} | 4.2, 8.2 | 4.2, 8.2 | 4.2, 8.2 | 2.0, 8.2 | 2.0, 8.2 | 4.2, 8.2 | V |
| Current (TEC) – Typ, Max | I_{TEC} | 0.8, 2.6 | 0.8, 2.6 | 0.8, 2.6 | 0.5, 2.6 | 0.5, 2.6 | 0.8, 2.6 | A |
| | | Range | Range | Range | Range | Range | | |
| Operating Temp.** | | -20 to 75 | | | | | | $^{\circ}$ C |
| Storage Temp. | | -40 to 85 | | | | | | $^{\circ}$ C |

*Optical Output Power for butterflies have an SOA current @ 1A and Pin @ 10dBm into fiber

*Specified values are rated at a constant heat sink temperature of 20 $^{\circ}$ C.

**High temperature operation will reduce performance and MTTF.

Unless otherwise indicated all values are nominal.

