

## PRODUCT BRIEF

### KEY FEATURES

- ▶ Up to 15 dB dynamic gain range with excellent gain flatness
- ▶ Up to 21 dBm output power
- ▶ Low noise figure over a large dynamic range
- ▶ Fast transient suppression
- ▶ Supports FG amplifier with VOA configurations for reduce cost and backward compatibility to older systems
- ▶ Can support G.657 low bend radius fiber connectors
- ▶ RS232 and I<sup>2</sup>C communication, full set of control options and alarms
- ▶ Qualified to Bellcore GR1312 and GR1089
- ▶ Class 1M\* laser product classification

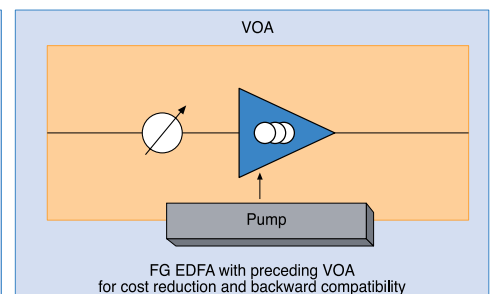
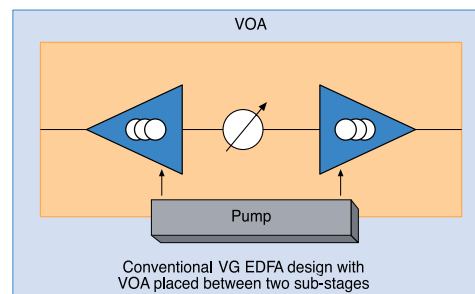
### APPLICATIONS

- ▶ Metro, regional and long-haul WDM networks
- ▶ ROADM systems requiring full East/West separation
- ▶ OSNR-sensitive applications
- ▶ Dynamic networks
- ▶ Small footprint and low power consumption systems

### OVERVIEW

Finisar's Compact 70x90 mm Variable Gain (VG) EDFA is a micro processor-controlled module for C-band amplification. The Compact VG module provides drop-in replacement software and hardware compatibility to line cards already designed to accommodate fixed gain (FG) EDFA. The VG EDFA, enables a new modular and flexible approach to amplifier design and can be mixed and matched with FG EDFAs to support all amplifier configurations using the same line card, including: single stage, dual-stage with mid-stage access, and East/West separation for ROADM applications. In addition, communication between two modules on a line card is supported, thus allowing the modules to be operated as a single unit in a master/slave configuration.

Besides fixed gain and variable gain configurations, this flexible platform can also accommodate a FG EDFA with VOA for cost reduction and backward compatibility. The Variable Gain Compact amplifier provides a large dynamic gain range, excellent gain flatness and very low noise figure over all its operational regimes. The fast automatic gain control (AGC) digital control electronics allow the amplifier to keep the gain constant and stable particularly in cases when there are very fast and large changes in the input power.



# Compact 70x90 mm Variable Gain EDFA

## KEY SPECIFICATIONS

| Parameter  | Specifications          |       |      | Remarks   |
|--|-------------------------|-------|------|---|
|  | Min.                    | Max.  | Unit |   |
| Wavelength Range                                 | 1528                    | 1567  | nm   |   |
| Gain Range                                       | 8                       | 35    | dB   | Gain range of up to 15 dB can be selected within this range |
| Saturated Output Power                           |                         | +20.5 | dBm  |   |
| Composite Input Power                            | -40                     | +8    | dBm  | 35 dB dynamic range for transient suppression               |
| Gain Flatness (peak to peak)                     |                         | ±0.5  | dB   | Over entire operating range                                 |
| Noise Figure                                     |                         | 5.5   | dB   | (max gain, min input power)                                 |
| Gain Transient Suppression, Overshoot/Undershoot | -1                      | +1    | dB   | 16 dB add/drop with 1 µs rise/fall time                     |
| Gain Transient Suppression Time                  |                         | 300   | µsec | 16 dB add/drop with 1 µs rise/fall time                     |
| Settable Tilt                                    |                         | ±2    | dB   |   |
| Gain Accuracy                                    | -0.25                   | +0.25 | dB   |   |
| PDG  |                         | 0.3   | dB   | AGC mode  |
| PMD  |                         | 0.3   | psec |   |
| Power Supply Voltage                             | +4.75                   | +5.25 | V    | Option for 3.3 V operation                                  |
| Operating Case Temperature                       | -5                      | +70   | °C   |   |
| Power Consumption                                |                         | 8     | W    |   |
| Dimensions                                       | 70x90x18                |       | mm   |   |
| Laser Safety Classification                      | Class 1M*               |       |      |   |
| Modes of Operation                               | AGC, APC, pump power    |       |      |   |
| Communication                                    | RS232, I <sup>2</sup> C |       |      |   |

\* Class 1M products are not hazardous under normal circumstances, but may pose an eye hazard when the laser output is viewed with certain optical instruments (for example eye loupes, magnifiers and microscopes) within a distance of 100 mm

**Finisar**<sup>®</sup>

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