

Gain Flattened Booster EDFA for DWDM Networks

The Optilab EDFA-GB series are Gain-Flattened Erbium Doped Fiber Amplifiers designed for in-line amplification of DWDM networks.

EDFA-GB Gain Flattened Booster EDFA for DWDM Networks



Product Description

The Optilab EDFA-GB series is a line of Gain-Flattening Erbium Doped Fiber Amplifiers designed for in-line amplification of DWDM networks. When a standard EDFA is used to amplify multi-channel DWDM signals, the output power level of various channels will vary according to the gain profile of the erbium fiber. This gain variation can be as great as 6 dB in magnitude. The EDFA-GB is unique in its dual-stage amplification and internal Gain Flattening Filter (GFF) to compensate the erbium fiber gain variation. This design enables EDFA-GB to reduce the gain variation to ± 0.5 dB over its full operating wavelength range, 1529 nm to 1561 nm. Depending on the input power level of each channel, the EDFA-GB is able to amplify up to 64 DWDM channels.

Features

- Compatible with 10 Gb/s and 40 Gb/s
- Channel spacing of 100 GHz or 50 GHz
- Flatten gain amplification from 1529 nm to 1561 nm
- Amplify 8 to 64 DWDM channels
- High output power up to +24 dBm
- Two 980 nm pump lasers
- Two 1480 nm pump lasers
- Optional SNMP/RS-232 interface

PRODUCT SPECIFICATIONS

Optical Specifications

Operating Range	1529 nm to 1561 nm
Amplifier Design	Single stage with internal Gain Flattening Filter
Output Power Levels	+18 dBm to +23 dBm
Number of Pump Lasers	4 total, 980 nm (2) and 1480 nm (2)
Input Signal Level per Channel	-7 dBm to -15 dBm, for gain flatness to ± 0.5 dB
Number of Channels	Can accommodate 8 - 64
Optical Gain per Channel	13 dB to 21 dB, depending on input level
Gain Flatness	± 0.5 dB
Noise Figure	5.0 dB typ.
Polarization Dependent Gain (PDG)	0.2 dB max.
Polarization Mode Dispersion (PMD)	0.5 ps max.
Output Power Stability	± 0.05 dB over 8 hours
Input/Output Isolation	30 dB min.
Optical Fiber	Single Mode, SMF-28

Ordering Information

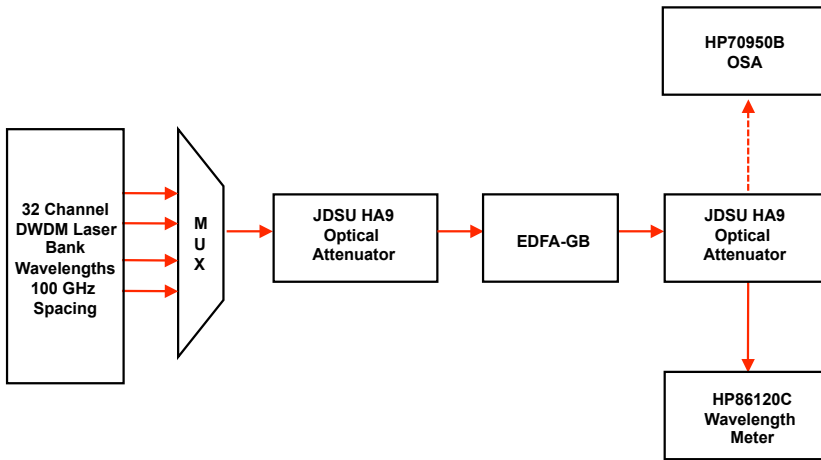
EDFA-GB-xx-R

xx: Output power level 18 – 24 dBm (in nm)



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Block Diagram



Gain Flattened Booster EDFA for DWDM Networks

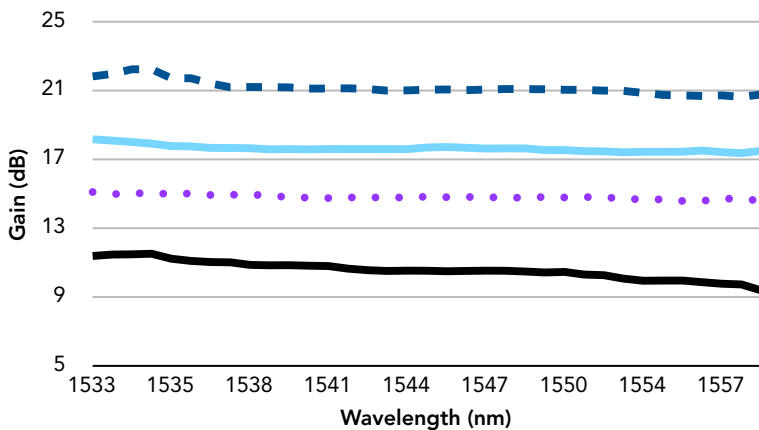
Mechanical Specifications

Operating Temperature	0° C to +50° C
Storage Temperature	-40° C to +70° C
Power Supply Requirements	80 - 240 V, 43 - 63 Hz AC
Power Consumption	80 W max.
Monitoring	Pump Laser Temperature
Computer Interface	RS-232 (Optional), SNMP (Optional)
Display	Output Power Level, TEC Temperature
Alarms	Temperature and Current Threshold
Optical Connectors	FC/APC, SC/APC
Housing Dimensions	1U Rack: 19" x 14" x 1.75"
Housing	Precision Machined Aluminum, Anodized

Additional Information

The EDFA-GB series amplifiers is a versatile and powerful fiber amplifiers and incorporates four pump sources (two 980nm lasers and two 1480nm lasers). With all four pump lasers set to maximum operating current, the total output power level of the EDFA-GB can reach +24 dBm (250mW).

Housed inside a standard 1U rackmount case, the EDFA-GB has a easy-to-use control interface and easy to read LCD display. This amplifier is constructed with 100% Telcordia-qualified components to ensure 15+ years of continuous operating life and is covered under Optilab's three-year standard warranty. Optilab's technical team provides full product support and application development consultation.



EDFA-GB Gain Flatness¹

¹ (Measured by Agilent 8703A Lightwave Component Analyzer)

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xx: Output power level 18 – 24 dBm



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