

Gain Modules

EOA & SPA Series



From ultra-compact amplifiers with low noise, high gain and low power consumption for single channel amplification or multi-channel wideband power amplification, to full size high power, low noise EDFA's for dynamically reconfigurable DWDM Metro rings and meshes, to mission-critical space-qualified PM or Non-PM Boosters and PreAmplifiers, MPBC Gain Modules deliver performance.

High reliability combined with the ease of customization to fit client specific requirements make MPBC Gain Modules the ideal choice for your demanding application.

Features

- Excellent optical performance and versatility
- Fast transient response
- Flat spectrum
- Extremely low noise figure
- Variable gain
- Mid-stage access (variable)
- Selection of industry-standard form factors
- Ultra-low power consumption

Applications

- Communications
 - Optical Amplifier for Submarine and Terrestrial Communications
 - Long distance RF/Microwave Fiber Optic Communications links
 - Free Space Communications
- Sensing and Control
- Test & measurement
 - Compensation for losses in test set designs
 - Built-in amplification in fiber-optic instruments and subsystems

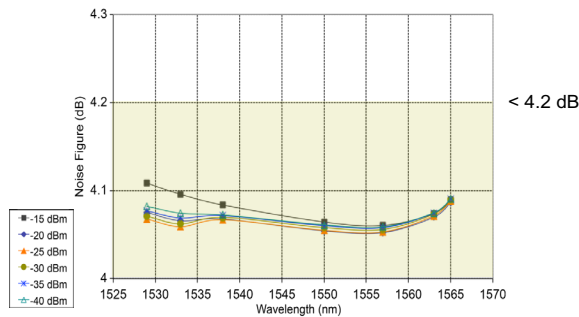
EOA-micro Series



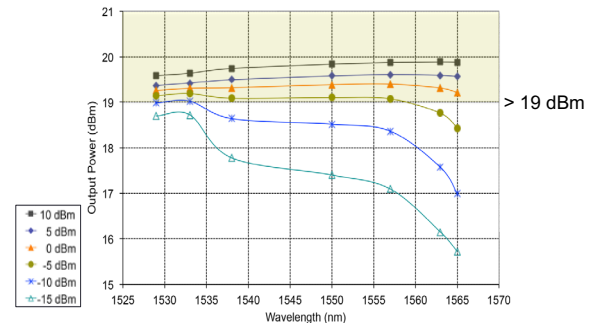
- Boosters
- Preamplifiers
- Ultra-Low Noise Preamplifiers

A versatile solution to single-channel pre-amplification as well as to multichannel wideband power amplification with the advantage of proven EDFA technology

- Amplifier saturated output power up to 20 dBm
- Pre-Amplifier small signal gain up to 44 dB
- Built-in control electronics
- Graphical user interface
- Serial interface
- Input and output monitors
- Low power consumption
- Embedded digital controller for stand-alone operation, easy system integration and remote control
- Telcordia compliant
- Dimensions: 70 x 45 x 12 mm
- Weight: 60 grams
- Available in C-band



Typical PreAmplifier profile demonstrating extremely low noise figure. Model EOA- μ -R30-6-1-C11- single channel input signal.



Typical Power Amplifier profile demonstrating high output power. Model EOA- μ -P19-1-1-C2 - single channel input signal.

EOA-S High Power Gain Module Series



- Boosters
- Gain-Flattened Boosters
- Preamplifiers
- Gain-Flattened Preamplifiers
- Ultra-Low Noise Preamplifiers

These highly reliable gain modules offer excellent optical performance and are a versatile solution to your single channel and multi-channel Power Amplification and Preamplification requirement. Offering output powers up to 28 dBm, the EOA-S can be optimized for booster, in-line or preamplifier in DWDM systems and subsystems.

- Saturated Output up to 28 dBm
- Small-signal gain up to 50 dB
- Near-quantum-limited noise figure
- Flat spectrum over up to 15 dB gain range
- Internal VOA
- Mid-stage access
- Available in C-band and L-band
- Available in PM or Non-PM
- Embedded digital controller for stand-alone operation, easy system integration and remote control
- Telcordia compliant
- Dimensions: 200 x 130 x 28.5 mm

This is a summary brochure. Contact us for more detailed information on specific units. Specifications subject to change without notice.

EOA-xs Series



- Boosters
- Gain-Flattened Boosters
- Preamplifiers
- Gain-Flattened Preamplifiers
- Ultra-Low Noise Preamplifiers

Pumped uncooled laser diodes, the EOA-xs (MSA) are highly reliable gain modules offering low power-consumption in a compact package.

With the advantage of the proven EDFA technology the EOA-xs can be optimized for booster, in-line or preamplifier in DWDM systems and subsystems

- Power Amplifiers with saturated output up to 23 dBm
- Pre-amplifiers with small-signal gain up to +48 dB
- Flat gain at fixed output power over up to 20 dB input power range
- Internal VOA
- Built-in control electronics
- Graphical user interface
- Serial interface
- Input and output monitors
- Embedded digital controller for stand-alone operation, easy system integration and remote control
- Low power consumption
- Telcordia compliant
- Ultra compact size (90 mm x 70 mm x 15 mm)
- Available in C-band

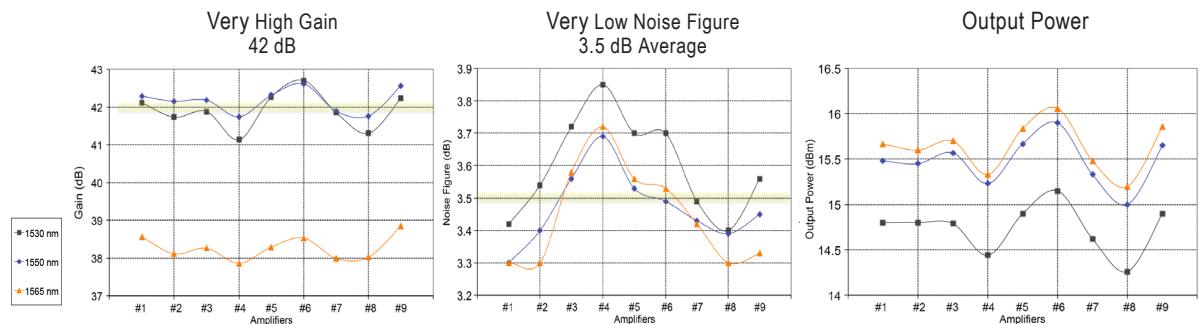
EOA-xs Duo Series



Mix or match
Amplifiers or PreAmplifiers

A versatile solution to single-channel pre-amplification as well as to multichannel wideband power amplification with the advantage of proven EDFA technology in a small package with low power consumption

- Separate control of each amplifier
- Saturated Output up to 20 dBm per amplifier
- Small-signal Gain up to 44 dB per pre-amplifier
- Low noise figure (down to 3.5 dB)
- Built-in control electronics
- Graphical user interface
- Serial interface
- Input and output monitors
- Embedded digital controller for stand-alone operation, easy system integration and remote control
- Low power consumption
- Telcordia compliant
- Available in C-band



Typical Performance - PreAmplifier / PreAmplifier - Model EOA-xs-Duo-R30-6-1-C2

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| EOA-m Ruggedized Series



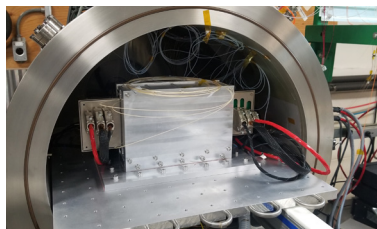
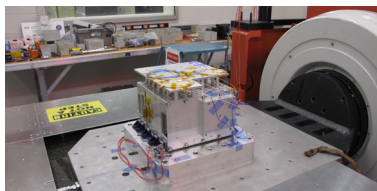
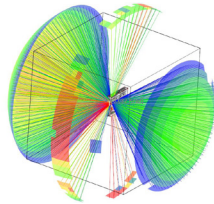
- Boosters
- Preamplifiers

Pumped by an uncooled laser, the EOA-m Amplifier has low-power-consumption in an ultra-compact package.

- Saturated output power up to 19 dBm
- Small-signal gain up to 43 dB
- Low noise figure down to 3.5 dB
- PM or Non-PM
- Built-in control electronics
- Graphical user interface
- Serial interface
- Input and output monitors
- Very low power consumption
- Embedded digital controller for stand-alone operation, easy system integration and remote control
- Extended operational temperature range
- Telcordia compliant
- Dimensions: 78 x 50 x 18 mm
- Available in C-Band or L-Band

| Space-Qualified Amplifiers

Custom Designs to meet Mission-Critical Requirements



From top to bottom:
 - Prototype module for US customer
 - Computerized radiation simulation
 - Vibration Testing
 - TVAC Testing

Qualified PM and Non-PM Boosters and PreAmplifiers for LEO, MEO and GEO installations where high reliability, low mass and low power consumption are essential.

We ensure a high level of flexibility, quality control, and seamless transfer from prototype to serial production as all R&D and manufacturing are conducted in our North American facility.

MPBC Custom designs for harsh environments draws on:

- Optical Components Toolkit for 30 kRad environments and thermal extremes
- Mechanical housing to withstand intensive shock and vibration
- Radiation tolerant control electronics

Power Amplifiers and Pre-Amplifiers

- Available in PM or Non-PM
- Compact size
- Very low power consumption
- Redundant and Non-redundant configurations
- 1550-nm band or 1060-nm band

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