

The Power to Transform[®] through the **EAD Series**

0.5 - 5 W Universal Single Channel C- and L-Band Erbium Fiber Amplifiers Desktop Version

Main Features

- Unique Choice of 0.5-5 W Output Power
- Low Noise Figure
- Extremely Low PMD
- 1530-1570 nm or 1575-1610 nm Operation Bandwidth
- APC, AGC and ACC Controls
- Dispersion Compensation Option
- Excellent Performance to Cost Ratio
- Two Year Warranty



Applications

- Fiber Optic Communications
- Wireless Communications
- Power Booster for Tunable Sources
- Photonics Switching
- Sensorics
- Components Testing

Overview

EAD Series versatile single-channel C-band (1535-1570 nm) and L-band (1575-1605 nm) Erbium Doped Fiber Amplifiers are conveniently packaged for use in a laboratory environment. Amplification occurs via multimode diode pumping coupled into a multicladd Yb-Er fiber. Everything is contained in one desktop instrument including the EDFA with your choice from 1-5 W saturated power output. The user-friendly front panel includes a monitor

display, a keyed on/off switch, power control and fiber input/outputs. RS232 and GPIB interface controls are also provided on the rear panel. These universal devices operate in the temperature range of 0-50°C and require 100/110/200/220V AC (50/60 Hz). The EAD Series can be employed for research and development in fields such as telecommunications, photonics switching, sensorics and product test beds.



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Common Parameters

Standard EAD-C Erbium Fiber Amplifiers provide an amplification of the randomly polarized single optical input signal in the 1535-1570 nm region and the EAD-L Amplifiers in the 1575-1605 nm region with bandwidth of 35 nm (FWHM). Typical amplifier input and output are provided by a 1.5 meter, standard SMF-28 optical fiber cable with input/output connectors or bare fiber termination (depending on the output power). Typically, an amplifier has 40 dB input and 30 dB output optical isolation. The EAD Series also offers a linear

polarization option with an extinction ratio of >17 dB. The front panel provides user control of the amplifier output power and readout of the pump diode current and pump diode temperature. The RS-232 or GPIB port on the rear panel allows computer control of the module. All EAD Series lasers utilize broad stripe 1x100 μm pump diodes operating at ~965 nm nominal wavelength. Expected diode lifetime is over 100,000 hours MTTF at 20°C. All pump diodes are subjected to intensive component qualification prior to installation.

Typical Specifications

Parameter	Unit	EAD-0.5-C(L)	EAD-1-C(L)	EAD-2-C(L)	EAD-5-C(L)
Saturated Output Power ¹	W	0.5	1	2	5
Polarization ²		random			
Mode of Operation ³		single channel			
Optical Bandwidth ⁴					
C-Band	nm	1535-1567	1535-1567	1535-1567	1540-1570
L-Band	nm	1570-1605	1570-1605	1570-1605	1570-1605
Optical Input Power ⁵	dBm	-3 to +3	-3 to +3	0 to +3	0 to +3
Typical Noise Figure					
C-Band	nm	5.5	5.5	6.0	6.0
L-Band	nm	6.0	6.0	6.0	6.5
Output Power Stability (over 8 hours, APC Mode)	dB	0.1 to .02			
Polarization Depend and Loss (PDL)	dB	0.3			
Polarization Mode Dispersion (PMD)	ps	0.7			
Input/ Output Optical Isolation	dB	40/30	40/30	40/30	40/25

¹ Higher output powers avail.

² Linear polarization avail. on req.

³ WDW (gain flattened) amplifiers avail. on req.

⁴ 1530-1565 & 1575-1610 nm bandwidths avail. on req.

⁵ Amplifiers optimized for lower input power avail. on req.

Parameter	Unit	Min.	Max.
AC Power Line	V	100	1
Dimensions	mm	341 x 132 x 305	
Operating Temperature	°C	0	+50
Storage Temperature	°C	-30	+70
Humidity	%	5	90
Warm-up Time	min	1	
Cooling		forced air/heat sink	
Input/ Output Termination		1.5m SMF-28 fiber with FC/APC Connectors	

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