EDFA Bidirectional Amplifier C-Band

22-32dB Gain, 24dBm Output, Built-in OSC, OPM, VOA

DATASHEET

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DEDF is a bidirectional erbium-doped fiber amplifier that integrates a preamplifier and booster amplifier into one compact unit along with an optical power monitor (OPM) for real-time detection/reporting and variable optical attenuator (VOA) for fast power balancing. It is designed to amplify the optical power up to 48 channels (channel interval of 100 GHz) or 96 channels (channel interval of 50 GHz) at the C-band at the same time in the transmission link. It has characteristics of flat gain, stable output, low noise figure, etc. It is mostly used in DWDM high-speed and long-haul transmission and is housed within two slots in a managed chassis. It supports unified management of its optical-layer and electrical-layer boards based on SDN, which allows integrated configuration, multi-rate hybrid transmission, efficient operation, and maintenance. It has a built-in optical supervisory channel (OSC) that has express ports accessed in the front of the module and dedicated SFP for remote site alarm reporting, communication necessary for fault location, and order wire.

These Erbium-Doped Fiber Amplifiers (EDFAs) are engineered for a long operational lifespan, typically designed to function reliably for over 10 years. This durability is achieved through high-quality components and robust manufacturing processes. The design considerations include thermal management, component selection, and rigorous testing to maximize the amplifier's longevity and efficiency.

Features

- Bidirectional
- Flat Gain
- Stable Output
- Low Noise
- High Reliability
- Integrated VOA
- Integrated Power Monitor

Applications

- DWDM Network
- Optical Network

Specifications

Parameter		Min	Typical	Max	Unit
Working Mode			AGC		
Operating Wavelength		1529.16	1550	1567.13	nm
Optical Power	TX	0		5	dBm
	RX	-30		-9	
Input Power		-34		2	dBm
Saturated Output Power				24	dBm
Gain		20	22	32	dB
Nominal Gain Error Range			±0.5		dB
Operation Mode			AGC/APC		
Noise Figure				7.3	dB
Gain Flatness			1	1.5	dB
Gain Tilt		-2	-1	0	dB
Power / Gain Stability			±0.05	±0.1	dB
Input Isolation		30			dB
Output Isolation		30			dB
Return Loss		40			dB
PDG			0.3	0.5	dB
PMD			0.3	0.5	dB
Power Consumption				100	W
Management			FCP NX		

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link]:

Rev 08/29/24

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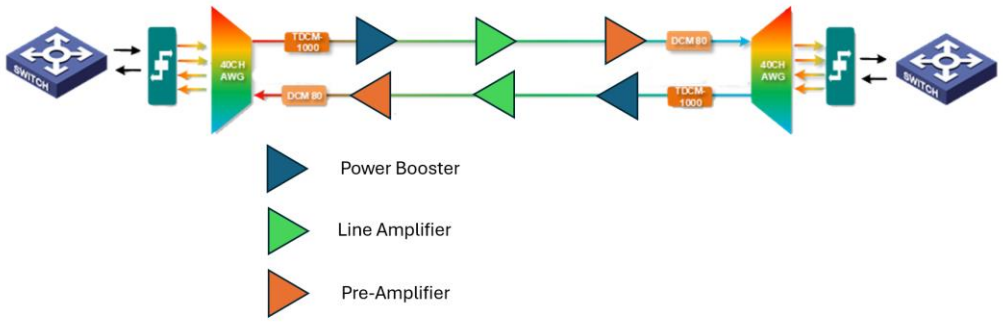
Layout

EDFA Type and position in DWDM Network



1. Pre-Amplifier is designed to install at the receiver end of the DWDM network to amplify the optical signal to the required level to ensure that it can be detected by the receiver. PA usually has a high gain and requires low input power.
2. Booster Amplifier is designed to install in the transmitting end of the fiber optic network, which can amplifier amplify the optical signal launched into the fiber link. BA usually has a low gain but high output.
3. In-line amplifier is installed in the fiber optic link every 80-100km as shown in the picture above. LA has moderate gain and has similar output power to the booster amplifier.

Ordering Information

	1	5	☐☐	☐☐	1	1	☐
Prefix	**Configure**	**Type**	**Gain**	**Output Power**			**Connector**
RMEA-	Pluggable = 1	Bidirectional = 5 Special = 0	17dB = 17 20dB = 20 26dB = 26	17dBm = 17 20dBm = 20 26dBm = 26			LC/PC = 1 LC/APC = 2 FC/PC = 3 FC/APC = 4 Special = 0

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