2025

3C-EDFA-LA/PA/BA

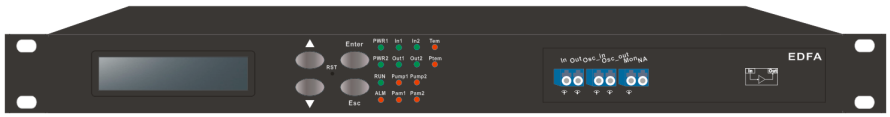
EDFA Optical Amplifier

19INCH 1UNIT CHASSIS STANDALONE EDFA

3C-LINK OPTO CO.,LTD

EDFA Optical Amplifier

EDFA Optical Amplifier module provide multi-function, low noise, Erbium-Doped Fiber Amplifier (EDFA) solutions, The amplifier module can be operated at constant gain (Automatic Gain Control AGC), constant output power (Automatic Power Control, APC). Integrated VOA can be automatically adjusted to achieve smooth gain spectrum. It can amplify the C-Band signal with or w/o middle stage access (MSA), which brings great flexibility for the network application.



Function

- C-band optical signal overall amplification
- Covering the wavelength range of 1528 ~ 1565nm
- Support systems to achieve different cross-section radio repeater transmission

Highlight

- Wide operating wavelength range:1528nm~1565nm
- Three Optical Amplifier C-Band applications:
  - Booster
  - In-line
  - Pre-amplifier
- Low noise figure: typical: 5dB
- Excellent gain flatness
- Multiple operating modes:
  - AGC adjustable Gain
  - APC output is adjustable
  - ACC voltage adjustable
- Mid-stage access for DCM or OADM
- Optional OSC channel for remote management
- MON port, on-line monitoring optical power

Many model options serve all the traditional amplifier applications in an extended optical link: booster, in-line, and pre-amplifier.

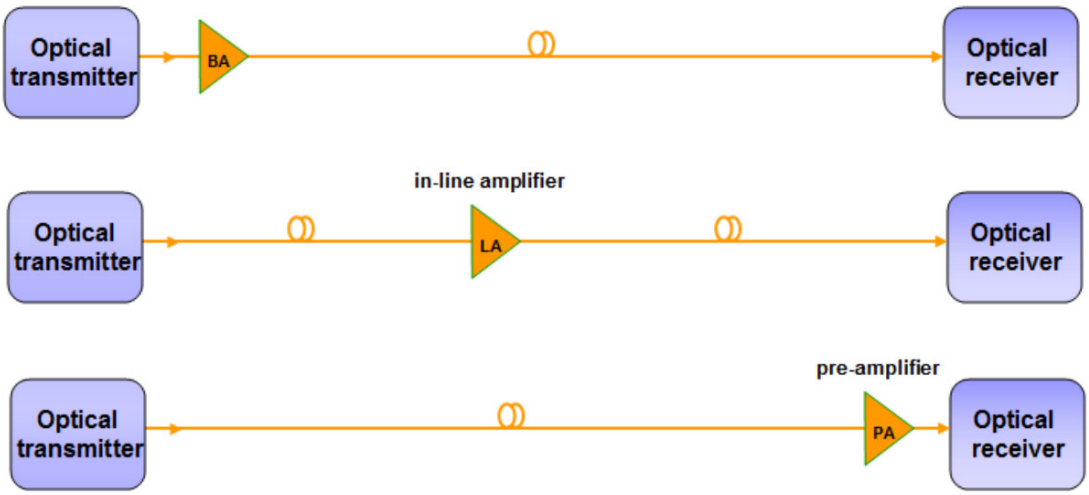
A booster amplifier operates at the transmission side of the link. It features high input power, high output power, and medium optical Gain . Boosters are designed to amplify aggregated optical input power for reach extension.

An in-line amplifier operates in the middle of an optical link. It features medium to low input power, high output power, high optical Gain , and a low noise figure. In-line amplifiers are designed for optical amplification between two network nodes on the main optical link.

A Pre-amplifier operates at the receiving end of an optical link. It features medium to low input power, medium output power, and medium Gain. Pre-amplifiers are designed for optical amplification to compensate for losses in a demultiplexer located near the optical receiver.

Some EDFA Models include an additional mid-stage port designed for insertion of a Dispersion Compensation Management (DCM) unit without its inherent insertion loss. The design of these models maximizes the DCM benefits to increase deployment flexibility. New placement options require fewer amplifiers in the link, and they can open the door to applications that were not possible with older technology.

Some EDFA Models include a Red and a blue port designed for Single fiber DWDM Solution. The design of these models is used for single-fiber DWDM transmission systems.



Performance Parameter

Parameter		Min.	Typical	Max.	Unit
Operating Wavelength		1528		1565	nm
Output Power				22	dBm
Gain		8		33	dB
Input Power	BA	-10		Max.Output -Gain	dBm
	PA/LA	(Max.input-29)		Max.Output -Gain	
Noise Figure			5.0		dB
Gain Flatness			1.0		dB
Input Threshold		-34		Can be adjusted	dBm
Polarization Dependence Loss				0.3	dB
Polarization Dependence Gain				0.4	dB
Polarization Mode Dispersion				0.5	ps
Pump Power Leakage				-29	dBm
Return Loss		45			dB
Environment	Operating Temperature	-10℃ ~ 60℃			℃
	Storage Temperature	-40℃ ~ 80℃			℃
	Relative Humidity	5% ~ 95% Non-condensing			

Power Consumption	≤15	W

Common Module

Model	Description	Gain dB	Max.Output dBm	Min.Input dBm	Max.Input dBm	Typ.NF dB
Booster Amplifier						
3C-EDFA-BA1612	Booster, Max.Output 16dBm, Gain 12dB, With OSC	12dB	16dBm	-10dBm	4dBm	5dB
3C-EDFA-BA1612NS	Booster, Max.Output 16dBm, Gain 12dB, Without OSC	12dB	16dBm	-10dBm	4dBm	5dB
3C-EDFA-BA2012	Booster, Max.Output 20dBm, Gain 12dB, With OSC	12dB	20dBm	-10dBm	8dBm	5dB
3C-EDFA-BA2012NS	Booster, Max.Output 20dBm, Gain 12dB, Without OSC	12dB	20dBm	-10dBm	8dBm	5dB
Pre-Amplifier						
3C-EDFA-PA1620	Pre-Amplifier, Max.Output 16dBm, Gain 20dB, With OSC	20dB	16dBm	-29dBm	-4dBm	4.5dB
3C-EDFA-PA1620NS	Pre-Amplifier, Max.Output 16dBm, Gain 20dB, Without OSC	20dB	16dBm	-29dBm	-4dBm	4.5dB
3C-EDFA-PA1620-8	Midstage access Pre-Amplifier, Max.Output 16dBm, Gain 20dB, With OSC, Mid-access Gain 8dB	20dB	16dBm	-29dBm	-4dBm	5dB
3C-EDFA-PA1620NS-8	Midstage access Pre-Amplifier, Max.Output 16dBm, Gain 20dB, Without OSC, Mid-access Gain 8dB	20dB	16dBm	-29dBm	-4dBm	5dB
3C-EDFA-PA1625	Pre-Amplifier, Max.Output 16dBm, Gain 25dB, With OSC	25dB	16dBm	-29dBm	-9dBm	4.5dB
3C-EDFA-PA1625NS	Pre-Amplifier, Max.Output 16dBm, Gain 25dB, Without OSC	25dB	16dBm	-29dBm	-9dBm	4.5dB
3C-EDFA-PA1625-8	Midstage access Pre-Amplifier, Max.Output 16dBm, Gain 25dB, With OSC, Mid-access Gain 8dB	25dB	16dBm	-29dBm	-9dBm	5dB
3C-EDFA-PA1630-8	Midstage access Pre-Amplifier, Max.Output 16dBm, Gain 30dB, With OSC, Mid-access Gain 8dB	30dB	16dBm	-29dBm	-14dBm	5dB
3C-EDFA-PA1625NS-8	Midstage access Pre-Amplifier, Max.Output 16dBm, Gain 25dB, Without OSC, Mid-access Gain 8dB	25dB	16dBm	-29dBm	-9dBm	5dB
3C-EDFA-PA1630NS-8	Midstage access Pre-Amplifier, Max.Output 16dBm, Gain 30dB, Without OSC, Mid-access Gain 8dB	30dB	16dBm	-29dBm	-14dBm	5dB
In-Line-Amplifier						
3C-EDFA-LA1620	In-Line-Amp, Max.Output 16dBm, Gain 20dB, With OSC	20dB	16dBm	-29dBm	-4dBm	5dB
3C-EDFA-LA1620NS	In-Line-Amp, Max.Output 16dBm, Gain 20dB, Without OSC	20dB	16dBm	-29dBm	-4dBm	5dB
3C-EDFA-LA1620-8	Midstage access In-Line-Amp, Max.Output 16dBm, Gain 20dB, With OSC, Mid-access Gain 8dB	20dB	16dBm	-29dBm	-4dBm	6dB
3C-EDFA-LA1620NS-8	Midstage access In-Line-Amp, Max.Output 16dBm, Gain 20dB, Without OSC, Mid-access Gain 8dB	20dB	16dBm	-29dBm	-4dBm	6dB

3C-EDFA-LA2020	In-Line-Amp, Max.Output 20dBm, Gain 20dB, With OSC	20dB	20dBm	-29dBm	0dBm	5dB
3C-EDFA-LA2020NS	In-Line-Amp, Max.Output 20dBm, Gain 20dB, Without OSC	20dB	20dBm	-29dBm	0dBm	5dB
3C-EDFA-LA2020-8	Midstage access In-Line-Amp, Max.Output 20dBm, Gain 20dB, With OSC, Mid-access Gain 8dB	20dB	20dBm	-29dBm	0dBm	6dB
3C-EDFA-LA2020NS-8	Midstage access In-Line-Amp, Max.Output 20dBm, Gain 20dB, Without OSC, Mid-access Gain 8dB	20dB	20dBm	-29dBm	0dBm	6dB
3C-EDFA-LA1625	In-Line-Amp, Max.Output 16dBm, Gain 25dB, With OSC	25dB	16dBm	-29dBm	-9dBm	5dB
3C-EDFA-LA1625NS	In-Line-Amp, Max.Output 16dBm, Gain 25dB, Without OSC	25dB	16dBm	-29dBm	-9dBm	5dB
3C-EDFA-LA1625-8	Midstage access In-Line-Amp, Max.Output 16dBm, Gain 25dB, With OSC, Mid-access Gain 8dB	25dB	16dBm	-29dBm	-9dBm	6dB
3C-EDFA-LA1625NS-8	Midstage access In-Line-Amp, Max.Output 16dBm, Gain 25dB, Without OSC, Mid-access Gain 8dB	25dB	16dBm	-29dBm	-9dBm	6dB
3C-EDFA-LA2025	In-Line-Amp, Max.Output 20dBm, Gain 25dB, With OSC	25dB	20dBm	-29dBm	-5dBm	5dB
3C-EDFA-LA2025NS	In-Line-Amp, Max.Output 20dBm, Gain 25dB, Without OSC	25dB	20dBm	-29dBm	-5dBm	5dB
3C-EDFA-LA2025-8	Midstage access In-Line-Amp, Max.Output 20dBm, Gain 25dB, With OSC, Mid-access Gain 8dB	25dB	20dBm	-29dBm	-5dBm	6dB
3C-EDFA-LA2025NS-8	Midstage access In-Line-Amp, Max.Output 20dBm, Gain 25dB, Without OSC, Mid-access Gain 8dB	25dB	20dBm	-29dBm	-5dBm	6dB

Shape and packing details

Product Size: 483（W）* 250（D）* 44（H）mm

Packing Size: 53*35*14cm，5KG