Optical Fiber Amplifier

XOA

XFP-EDFA
Pluggable EDFA Series

XFP Compatible EDFA

The world's smallest pluggable EDFA, XOA is a full-functioning EDFA module with control circuitry packaged inside. It is totally compatible with conventional XFP optical transceiver in respect of size and pin-map. Due to the small size and easy installation, the XOA is designed for a single wavelength applications in fiber optic communications system in core networks, access networks, or CATV networks. The XOA provides very stable output power up to 17 dBm and noise figure of 6 dB in C-band over wide operating temperature range. Ultra compact size (18.35 x 77.95 x 8.5 mm), combined with extremely low power consumption, allows the XOA to be highly suitable for applications of power equalization or pre-emphasis in densely packaged telecom systems, especially for densely integrated high speed transmitter or receiver card.

Features

- **Conventional XFP compatible size and pin map**
- **Cost efficiency with pluggable type**
- **Space efficiency with ultra-compact size**
- **EDFA module including micro process control circuit**
- Uncooled 980 nm pump laser module
- Extremely lower the heat generation
- High saturation output power up to 17dBm
- Selectable Output Power
- APC (Automatic Power Control; Default) or AGC(Automatic Gain Control; Optional) with FLS (Forced Laser Shutdown)
- Control & monitoring by I2C
- LVTTL Alarm
- Single + 3.3 V power supply

Applications

- **10G/40G/100G or higher speed Channel Amplifier**
- **Reach Extension for L2/L3 Ethernet Switch**
- **High Speed Data Center Network**
- **RF over Fiber Network**
- Power equalization and Pre-emphasis Amplifier for DWDM Metro System
- Signal loss compensation in switch matrix
- SONET/SDH system
- OADM access networks
- CATV System

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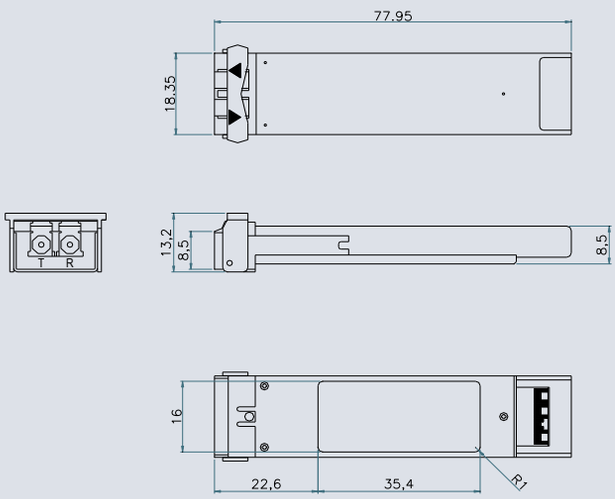
XOA (XFP Optical Amplifier)

Mechanical Dimension
(WxLxH = 18.35 X 77.95 X 8.5 [mm])



Optical Characteristics

Parameter	Symbol	Specification	Unit
Signal wavelength range	λ	1528 ~ 1563	nm
Input power	P_{IN}	-30~0	dBm
Saturation Output power(1)	P_{OUT}	Typ. 17	dBm
Small signal gain(2)	G	Min. 30	dB
Noise figure	NF	Typ. 6	dB
Optical isolation	ISO	>20	dB
Return loss	RL	>40	dB
Polarization mode dispersion	PMD	<0.5	ps
Polarization dependent gain	PDG	<0.5	dB

(1) Input Power = 0 dBm
(2) Input Power = -30 dBm at 1545 nm

Electric & Environmental Characteristics

Parameter	Specification
Power supply voltage	+3.3 V
Interface	I2C
Alarm	LVTTL
Operating case temperature	0 ~ 70 ℃
Storage temperature	- 40 ~ 85 ℃
Storage humidity	5 ~ 85 % R.H
Power consumption*	2.5 W

* in normal input power and full temperature range

Control and Monitoring Functions

Parameter	Specification
Control Scheme	APC with FLS* (AGC optional)
Monitor	IPM(optional) / OPM / LD-Bias / Case-Temp
Alarm	LOS(optional) / LOP / LD-Bias / Case-Temp

* FLS: Forced Laser Shutdown

Ordering Information

OFA - x_1CX - xx_2APx_3

- X_3 : I (IPM option)
- XX_2 : Max. Output Power (dBm)
- x_1 : T : Digital / C : Analog (CATV)

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