Optical Fiber Amplifier

Ultra Compact PICO-EDFA

OFA-TCP Series

The world's smallest EDFA, pOA is a full-functioning EDFA module with the control circuitry packaged inside. It is designed for a single wavelength applications in fiber optic communications system in core networks, access networks, or CATV networks. The pOA, OFA-TCP series provides very stable output power up to in C-band over the wide operating temperature range. Ultra compact size (46 x 19 x 10 mm), combined with the extremely low power consumption, allows the OFA-TCP series 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 cards and loss compensation for compact active optical module.

Features

- **Ultra compact size (46 x 19 x 10 mm)**
- **EDFA module including micro process control circuit**
- Uncooled 980 nm pump laser module
- Extremely low power consumption over wide operating temperature range
- High output power up to 17 dBm
- APC (Automatic Power Control) with FLS (Forced Laser Shutdown)
- Control & monitoring by I2C
- LVTTL Alarm
- Single + 3.3 V power supply

Applications

- **Loss Compensation for active optical modules**
- **Optimized for integration into 100 Gbps coherent CFP & CPF2 modules**
- Signal loss compensation in switch matrix
- Power equalization and Pre-emphasis Amplifier for DWDM Metro System
- 2.5G/10G/40G/100G Channel Amplifier
- SONET/SDH system
- OADM access networks
- CATV System

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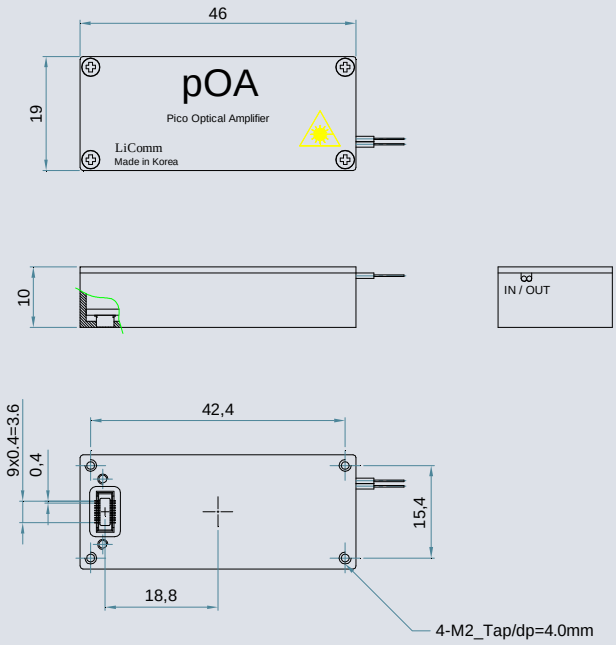
pOA : PICO-Optical Amplifier

Mechanical Dimension
(WxLxH = 46 x 19 x 10[mm])



Optical Characteristics

Parameter	Symbol	OFA-TCP	Unit
Signal wavelength range	λ	1528 ~ 1563	nm
Input power	P_{IN}	-30~0	dBm
Saturation Output power(1)	P_{OUT}	17	dBm
Small signal gain(2)	G	30	dB
Noise figure	NF	Typ. 6.0	dB
Optical isolation	ISO	>30	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	Typical Value
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	Typical Value
Control Scheme	APC with FLS*
Monitor	OPM / LD-Bias / Case-Temp
Alarm	LOP / LD-Bias / Case-Temp

* FLS: Forced Laser Shutdown

Ordering Information

OFA - xCP - xx_1AP

- xCP: T : Digital, C : Analog (CATV)
- xx_1AP: XX_1 : Max. Output Power (dBm)

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