Optical Fiber Amplifier

DWDM EDFA

OFA-WCA Series
OFA-WC2 Series

The LiComm OFA-WCA series and OFA-WC2 series are designed for use in high-performance and wide bandwidth DWDM and ROADM system of core networks and metropolitan networks. The OFA-WCA series and OFA-WC2 offers high saturated output power, wide flat gain range, high gain, low noise figure, and AGC (Automatic gain Control) or VGC (Variable Gain Control)/VTC (Variable Tilt Control) features with low power consumption. This feature allows great flexibility to system engineers in designing OADM or ROADM systems in metro or core networks. DSP (Digital Signal Processor) controlled circuitry facilitates convenient monitoring and controlling of various EDFA characteristics, such as input power, output power, pump LD bias, temperature, and so on. In addition, OFA-WCA and OFA-WC2 reliability test results assure an excellent long-term EDFA performance needed in most of network applications.

Features

- Compact Size (90x70x15mm, 130x90x16mm)
- Low Power Consumption
- Mid-Stage Accessible
- Integrated electric control circuit
- High output power up to 24dBm
- Wide flat wavelength range and excellent gain flatness
- Wide input dynamic range
- Low noise figure
- Drop/Add OSC is optional
- In/Out Optical monitor port is optional
- Input/Output optical power monitoring
- APC (Automatic Power Control) or AGC (Automatic Gain Control) or VGC (Variable Gain Control) /VTC (Variable Tilt Control)
- Convenient system interface (RS232)
- Single +3.3 or 5.0V power supply

Applications

- DWDM ROADM & long haul networks
  - Booster, In-line, Pre-Amp.
- ROADM access network

LiComm
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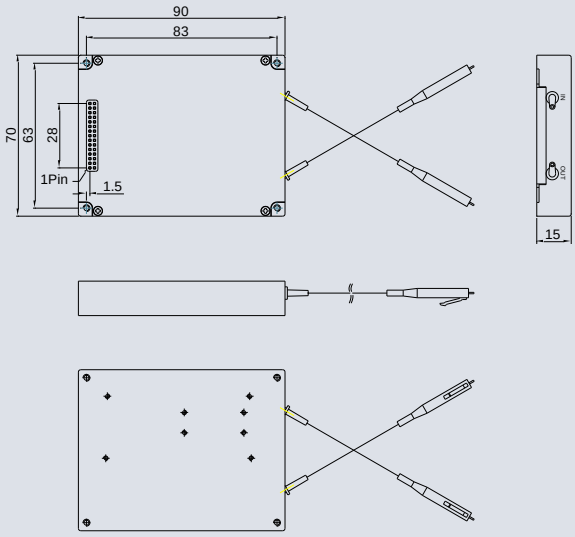
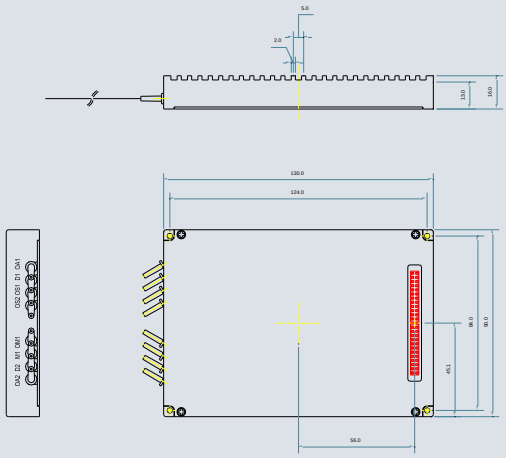
Mechanical Dimension
MSA DWDM (90 X 70 X 15mm)



Mini ROADM (130 X 90 X 16mm)



Optical Characteristics

Parameter	Symbol	WCA-22AG	WCA-20VG	WC2-22MG	Unit
Signal wavelength range	λ	1528 ~ 1568	1528 ~ 1568	1528 ~ 1568	nm
Saturated output power	P_{OUT}	22	20	22	dBm
Signal gain	G	Typ.24	Typ. 24	Typ.15~25	dB
Noise figure (1)	NF	Typ.5.0	Typ.5.0	Typ.5.5	dB
Gain flatness	ΔG	Typ.1.0	Typ.1.0	Typ.1.0	dB
Variable Gain Range	VG	-	10	10	dB
Variable Tilt Range	VT	-	-4 ~ 0	-4 ~ 0	dB
Input dynamic range	P_{ID}	20	20	20	dB
Channel gain variation	G_C	-0.5 ~ 0.5	-0.5 ~ +0.5	-0.5 ~ 0.5	dB
Mid-Stage Loss	MD	-	-	0~10	dB
Transient suppression (2)	T_G	0.5	0.5	0.5	dB
Optical isolation	ISO	>30	>30	>30	dB
Return loss	RL	>40	>40	>40	dB
Polarization mode dispersion	PMD	<0.5	<0.5	<0.5	ps
Polarization dependent gain	PDG	<0.3	<0.3	<0.3	dB

(1) Gain = Max. Gain, P_{OUT} = Max. Output, Normal Tilt
(2) 20dB Add/Drop at output power of Max. Output

Electric & Environmental Characteristics

Parameter	WCA-22AG	WCA-20VG	WC2-22MG	
Power supply voltage	3.3		+3.3 or 5.0	V
Interface	RS232			-
Operating temperature	-10 ~ 65			℃
Storage temperature	-40 ~ 85			℃
Storage humidity	5 ~ 90			%RH
Power consumption*	5		10	W

*Output power = 22dBm, at 25℃

Ordering Information

OFA - WCX_1 - XX_2XX_3

X_1 : Module Size
- A: MSA Size
- 2: WC2 Type

XX_2 : Maximum Output Power (dBm)
XX_3 : Control Scheme
- AG: AGC
- VG: Variable Gain Control
- MG: Mid-stage Access Variable Gain Control

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