FGA4400-FM04 (100×130×19mm)

C-Band DWDM FGA Full Function Module Fixed Gain EDFA Module

PRODUCT DESCRIPTION

FGA4400-FM04 series is a fixed gain Full Functional EDFA module which is specifically designed for C-Band DWDM optic transmission system, accord with various communication technology requirements of 44 channels DWDM system. It adopts nowadays excellent optical performance, advanced electronic control technology and complete software functionalities. Excellent total integration electronic transient control technology ensures amplifier to achieve the locking of optimal flat gain (OFG) in large dynamic input optical power range.

FGA4400-FM04 fully functional EDFA module, using 100 × 130 × 19mm, a single set of + 5VDC power supply, low power consumption.

FGA4400-FM04 is suitable for DWDM booster amplifier (BA) and DWDM preamplifier (PA).

PRODUCT FEATURES

▶Accord with the various communication technology requirements of 44 channels DWDM system

▶Excellent optical performance

▶Excellent total integration electronic transient control technology

▶Optimal flat gain (OFG) locking (GF<1.0dB)

▶Low noise figure

▶Standard RS232 communication interface.

▶Low power consumption

▶Excellent P/P ratio in area

MAIN APPLICATION

▶C-Band 44 channels DWDM booster amplifier

▶C-Band 44 channels DWDM preamplifier

▶Long distance trunk network

▶MAN or access network

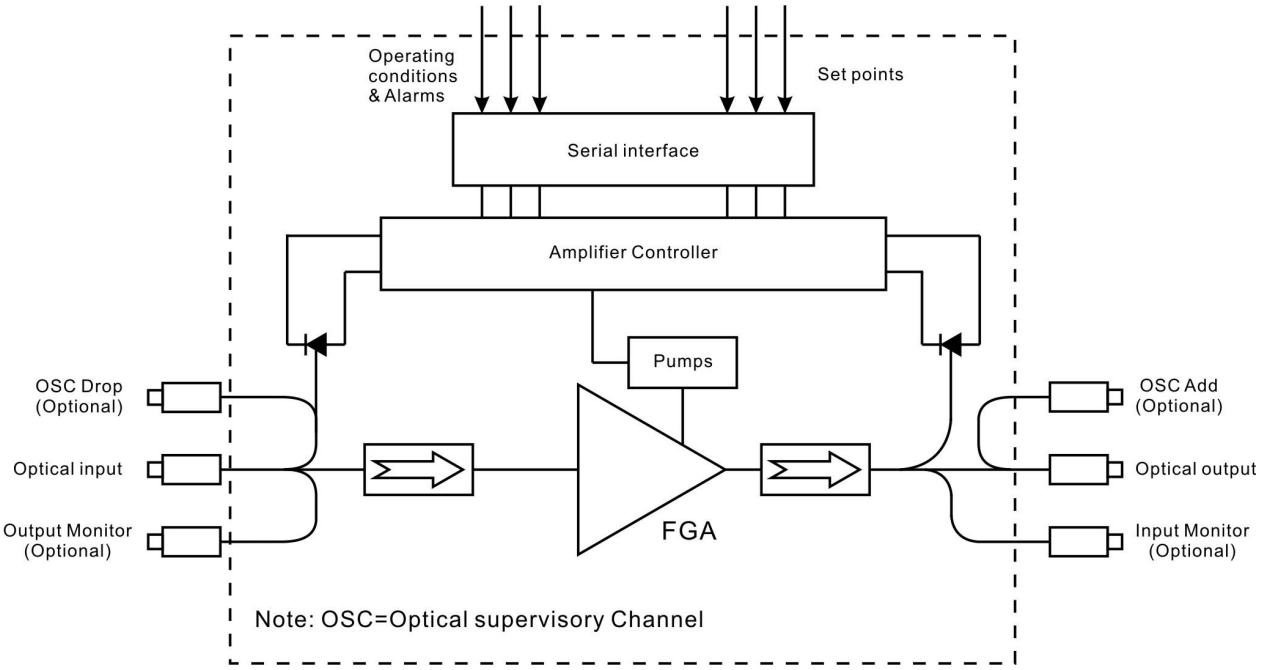
▶All kinds of SDH/PDH transmission system

▶FTTx PON

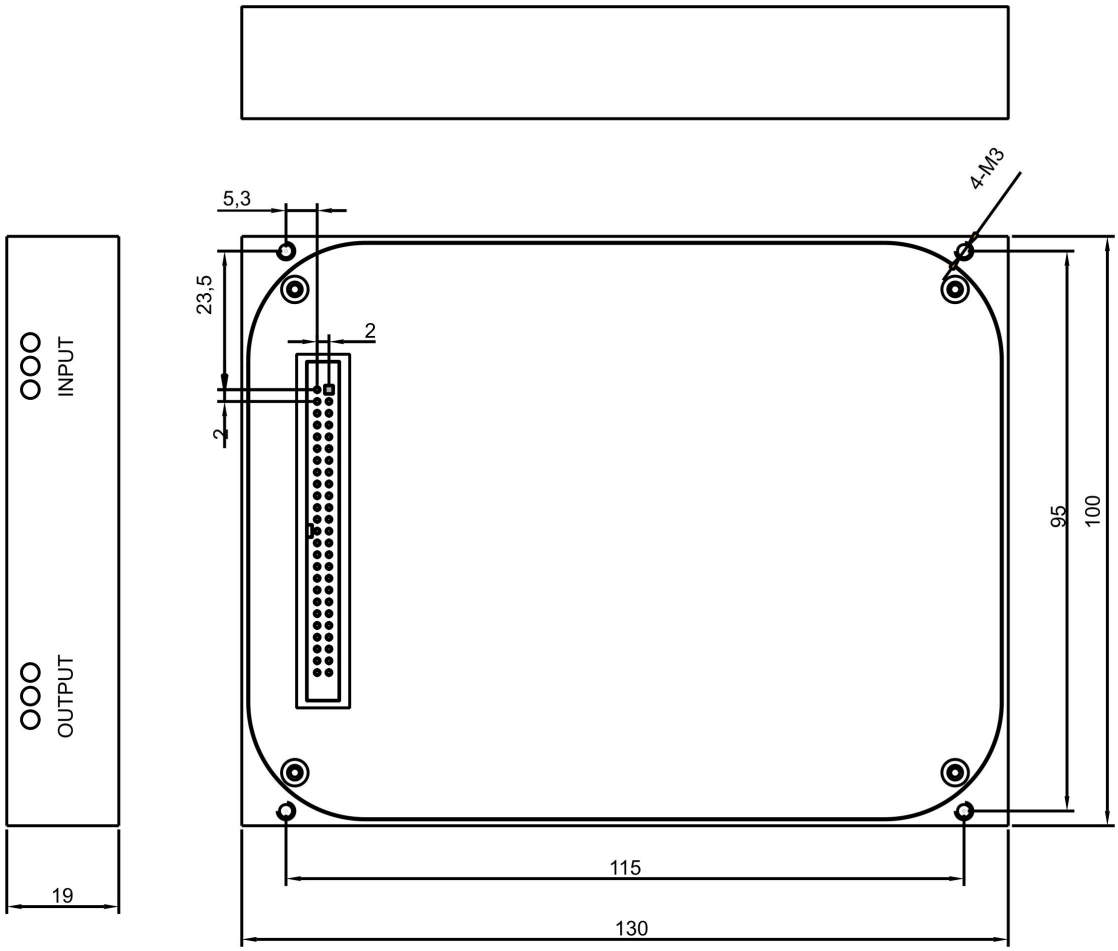
SOFTWARE FUNCTION MONITORING AND ALARM

Functions	In-Service Firm ware Upgrades
	Auto Shut Down
	Fixed Gain Control mode and Power limiting
	Output Power Control Mode (APC)
	Pump Current Control Mode (ACC)
	Pump Maximum Working Current limit Protection
Monitors	Total Input Power
	Total Output Power
	Pump Status
	Chassis Temperature
Alarms	Loss-of-Signal Alarm
	Chassis Temperature Alarm
	Pump Temperature Alarm
	Pump Bias Alarm

OPTO-ELECTRICAL DIAGRAM



DIMENSIONS



TECHNICAL INDEX

Performace			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	Working wavelength range (λ)	(nm)	1529.16		1563.86	ITU 88CH
	No. of working channel	(CH)	1	44		
	Input Optical Power (Pi)	(dBm)	-30		+3	
	Saturation output power(Po)	(dBm)	14		22	Enhanced version
	Optimal Flat Gain (OFG)	(dB)	18		33	Enhanced version
	Gain flatness	(dB)		0.7	1.0	Value of Peak-to-peak
	Noise figure	(dB)		4.7	5.5	Max output, max gain

	Monitoring accuracy of input optical power	(dB)	-0.5		+0.5	
	Monitoring accuracy of output optical power	(dB)	-0.5		+0.5	
	Average gain accuracy	(dB)	-0.5		+0.5	
	Gain stability	(dB)	-0.25		+0.25	
	Polarization dependence Gain (PDG)	(dB)			0.3	
	Polarization mode dispersion (PMD)	(ps)			0.3	
	Polarization dependence loss (PDL)	(dB)			0.3	
	Input/Output optic isolatioin	(dB)	30			
	Pump leakage power	(dB)			-30	
	Echo loss	(dB)	45			UPC
			55			APC
	Optical Supervisory Channel Wavelength	(nm)	1500	1510	1520	
Transient feature	Transient setting time	(μs)			700	15dB Add/Drop
	Transient Overshoot	(dB)	-1.5		+1.5	15dB Add/Drop
	Transient gain changes	(dB)	-0.5		+0.5	
General feature	Communication interface		RS232			
	Fiber type		Coming SMF-28™ or equivalent			
	Pigtail buffer diameter	(μm)		900		
	Pigtail length	(mm)		1000		
	Power supply	(V)	+4.75	+5.0	+5.25	220VAC
	Power consumption	(W)			30	
	Working temp.	(°C)	-5		+70	
	Storage temp.	(°C)	-40		+85	
	Working relative humidity	(%)	+5		+95	
	Size (W)×(D)×(H)	(mm)	100×130×19			

50 PIN DEFINATION

Pins	Description	Pins	Description
1	Power supply	2	Power supply
3	Power supply	4	Power supply
5	Power supply	6	Power supply
7	Ground	8	Ground
9	Ground	10	Ground
11	Reserved (do not connect)	12	Output reflection alarm
13	Ground	14	Resent input
15	Serial input	16	Serial output
17	Pump current alarm	18	Stage 1 input LOS alarm
19	Ground	20	Ground
21	Reserved (do not connect)	22	Reserved (do not connect)
23	Reserved (do not connect)	24	Reserved (do not connect)
25	Ground	26	Reserved (do not connect)
27	Stage 2 input LOS alarm	28	Ground
29	Stage 2 output/Gain alarm	30	Ground
31	Ground	32	Ground
33	Case temperature alarm	34	Stage 1 output / Gain alarm
35	Pump temperature alarm	36	Pin is absent (Polarization key)
37	Amplifier disable input	38	Output Power mute input
39	I2C SCL (Optional)	40	I2C SDA (Optional)
41	Ground	42	Ground
43	Ground	44	Ground
45	Power supply	46	Power supply
47	Power supply	48	Power supply
49	Power supply	50	Power supply

PRODUCT SERIES

Model	Stauration power (dBm)	Signal gain (dB)	Gain flatness (dB)	Monitor optical port mode	OSC Optical port mode
FGA4414-G□□-FM04	14	18, 20, 22, 24, 27, 33 Optional	<1.0	1, MO:With output monitoring 2, MI: With input monitoring 3, MIO: With input andoutput monitoring	1, OD: OSC / Drop 2, OA: OSC / Add 3, ODA:OSC /Drop & Add
FGA4418-G□□-FM04	18				
FGA4420-G□□-FM04	20				
FGA4422-G□□-FM04	22				

MODEL EXPLANATION

FGA 4 4 □□ – G□□ – FM 04 / □□ – M□□ – O□□

C-Band DWDM Fixed Gain Optical Amplifier Module	Operation wavelength		Product type		Max.Output power		Gain		Module type		Best gain flatness		Connncrtor		Monitor options		OSC optical port options	
	4	C-Band (1528~1564)	4	Fixed Gain Amplifier(BA)	14	14dBm	18	18dB	FM	Full function module	04	100×130×20mm	LP	LC/UPC	MO	With output monitor	OD	OSC/Drop
					18	18dBm	20	20dB					LA	LC/APC				
					20	20dBm	22	22dB					SP	SC/UPC	MI	With intput monitor	OA	OSC/Add
					22	22dBm	24	24dB					SA	SC/APC				
							27	27dB					FP	FC/UPC	MIO	With input & output monitor	ODA	OSC/Drop & Add
							33	33dB					FA	FC/APC				