HSA4400 (With SNMP)

C-Band Single Channel FGA Fixed Gain EDFA

PRODUCT DESCRIPTION

HSA4400 series is a fixed gain EDFA which is designed specifically for single wavelength optic transmission system. The EDFA adopts excellent optical performance and advanced electric transient control technology, which can efficiently restrain the input optical power change that caused by amplifier, create large transient change of output optical power, so that to protect optical detector and other optical devices in high-speed network.

HSA4400 adopts the world's top class pump laser. Advanced electronic circuit and low consumption design, greatly reduced the heat power consumption of the complete equipment. Perfect APC, ACC and ATC control, excellent design in the ventilation and heat-dissipation, ensures the long life and high reliability work of pump laser. The LCD at the front panel offers the work index and warning alarm of all equipment. RS232 and RJ45 offer serial communication and SNMP network management port. The laser will switch off automatically if optical power is missing, which offers security protection for the laser. All the optical port can be installed in the front panel, also can be in the back panel if customers specify.

HSA4400 is suitable for optical booster amplifier (BA) and pre-amplifier (PA).

PRODUCT FEATURES

- ▶Covered full C-Band.
- ▶Excellent optical performance.
- ▶Fully integrated electronic transient control technology
- ▶Advanced low consumption electronic control technology
- ▶Fixed gain working mode
- ▶Transient restrain of output optical power, to protect optical device.
- ▶Telecommunication-grade security and reliability and network management function.
- ▶The LCD, LED at the front panel offer the work index and warning alarm of all equipment.
- ▶Standard RS232 communication interface.
- ▶10/100M Ethernet interface supports SNMP and WEB remote network management.
- ▶1+1 powers supply back up ,hot-plug function available.
- ▶Low power consumption.
- ▶Excellent P/P ratio in area.

MAIN APPLICATION

- ▶Booster amplifier
- ▶Pre-amplifier
- ▶Long distance trunk network
- ▶MAN or access network
- ▶All kinds of SDH/PDH transmission system
- ▶FTTx PON

TECHNICAL INDEX

Performance			Index			Supplement
			Min.	Typ.	Max.	
Optic feature	Working wavelength range	(nm)	1528		1564	C-Band
	Input optical power (Pi)	(dBm)	-25		-10	
	Signal gain [1)]	(dB)	17		33	
	Output optical power (Po) [2)]	(dBm)	13		24	
	Noise figure	(dB)		4.7		Max output, max gain
	Polarization dependence loss (PDL)	(dB)			0.3	
	Polarization dependence gain (PDG)	(ps)			0.3	
	Polarization mode dispersion (PMD)	(dB)			0.3	
	Input/output optical isolation	(dB)	30			
	Pump power leakage	(dBm)			-30	
	Echo loss	(dB)	45			UPC
			55			APC
	Optical supervisory channel wavelength ranges	(nm)	1500	1510	1520	
Transient feature	Transient high-speed change of input power	(μs)	50			
	Transient set time	(μs)			1000	
	Change of output power	(dB)			0.6	(Pin=±3dBm)
					1.2	(Pin=±5dBm)
					2.0	(Pin=±7dBm)
General feature	SNMP network management interface		RJ45			
	Communication interface		RS232			
	Power supply	(V)	90		265	220VAC
			30		72	-48VDC
	Power consumption	(W)			30	

	Working temp.	(°C)	-5		+70	
	Storage temp.	(°C)	-40		+85	
	Working relative humidity	(%)	+5		+95	
	Size (W)×(D)×(H)	(mm)	483×205×44			

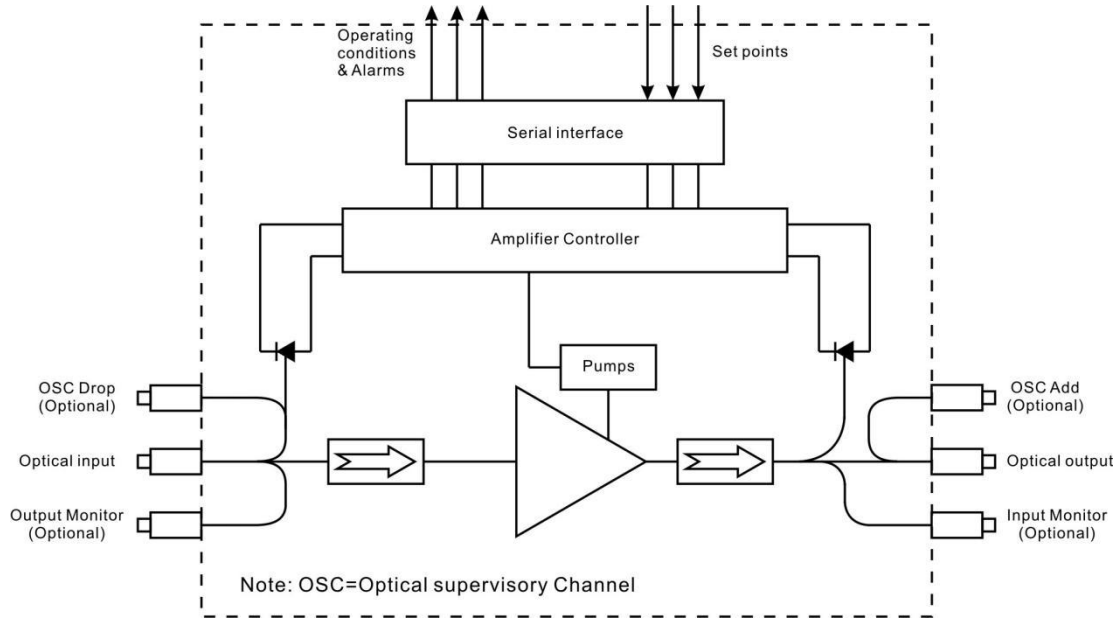
Note:1).Signal gain by the custom optional:17dB,20dB,22dB,23dB,27dB,30dB,33dB

2).Saturated output power of customization,optional:13dBm,7dBm,20dBm,22dBm,23dBm,24dBm

SOFTWARE FUNCTION MONITORING AND ALARM

Functions	In-Service Firm ware Upgrades
	Auto Shut Down
	Fixed Gain Control mode and Power limiting (AGC)
	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



PRODUCT SERIES

Model	Signal Gain (dB)	Max Output power(dBm) (Pin=0dBm)	Monitor optical port mode	OSC Optical port mode
HSA4417-G □□-M00-O00	17	13dBm, 17dBm, 20dBm, 22dBm, 23dBm, 24dBm Optional	Without	Without
HSA4420-G □□-M00-O00	20			
HSA4422-G □□-M00-O00	22			
HSA4425-G □□-M00-O00	25			
HSA4427-G □□-M00-O00	27			
HSA4430-G □□-M00-O00	30			
HSA4433-G □□-M00-O00	33			

Note :1) Monitor optical port mode options :1 . MO (With output monitor optical port)

2 . MI (With input monitor optical port)

3 . MIO (With input and ouput monitor optical port)

2) OSC Channel optical port light management: 1 . OD (OSC / Drop)

2 . OA (OSC / Add)

3 . ODA (OSC / Drop & Add)

MODEL EXPLANATION

HSA 4 4 □□ – G□□ – D20 – □□ – □ / □□ – M□□ – O□□

Telecom single-channel EDFA	Operation wavelength		Product type		Saturation output power		Signal Gain		Chassis Length		Connector		Power Mode		Power Supply		Monitor Optical ports options		OSC optical port options mode	
	4	C-Band (1528~1564)	4	Fixed Gain Amplifier	13	13dBm	17	17dBm	D20	200mm	SP	SC/UPC	S	Single PS	22	220VAC	M00	Without Monitor optical ports	O00	Without OSC
					17	17dBm	20	20dBm	D25	250mm	SA	SC/APC	P	Dual PS Hot Plug	48	-48VDC			OD	OSC/Drop
					20	20dBm	22	22dBm	D30	300mm	LP	LC/UPC			42	-48VDC &220VAC	MO	With output optical ports monitor	OA	OSC/Add
					22	22dBm	25	25dBm			LA	LC/APC							ODA	OSC/Drop & Add
					23	23dBm	27	27dBm			FP	FC/UPC					MI	With input optical port monitor		
					24	24dBm	30	30dBm			FA	FC/APC								
							33	33dBm									MIO	With input,output optical ports monitor		