

SPA4300-FM01 Series
Full Function Single Channel
Small Form Factor EDFA Module

Technical Specification

CONTENT

1.0 PRODUCT DESCRIPTION.....	1
2.0 PRODUCT FEATURE.....	2
3.0 MAIN APPLICATION.....	2
4.0 FUNCTIONAL DIAGRAM.....	2
5.0 DIMENSIONS.....	3
6.0 ELECTRICAL 6-PIN ASSIGNMENTS.....	3
7.0 TECHNIQUE INDEX.....	4
8.0 PRODUCT SERIES.....	5
9.0 ORDER INFORMATION.....	5

1.0 PRODUCT DESCRIPTION

SPA4300-FM01 is a full-function single channel Pre-Amplifier EDFA module with digital control electronics, adopts subminiature $40 \times 70 \times 12\text{mm}$ compact package, combined with artistic package and best optic performance, creating the best flexible and variable low-cost amplifier in the market. This module is suitable for multiple network application, especially the application that requires 40GB/S transmission speed.

SPA4300-FM01 full-function fiber optical amplifier module , uses high performance non-cooling pump laser, adopts the standard version of single channel and narrow bandwidth. A standard 6-PIN electric connector (HIROSE DF11-6DP-2DSA) allows the simple electric connection.

SPA4300-FM01 full-function Pre-Amplifier EDFA module, main installed before the receiver to improve receiver sensitivity and extend signal transmission distance

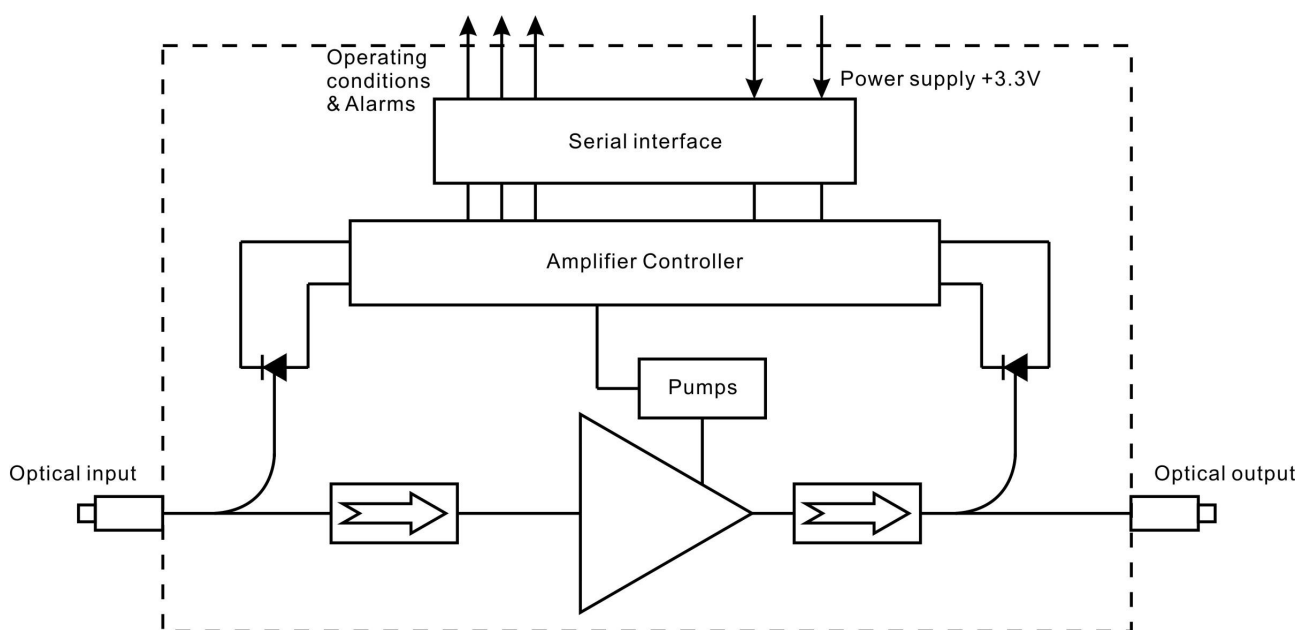
2.0 PRODUCT FEATURE

- With Digital Control Electronics (Full Function)
- APC, ACC mode
- RS-232 standard communication interface, (Optional I²C)
- 15dB, 20dB, 25dB, 30dB, Gain optional
- Small form factor package (40×70×12mm)
- Low power consumption
- Low cost
- Wide operating temperature range

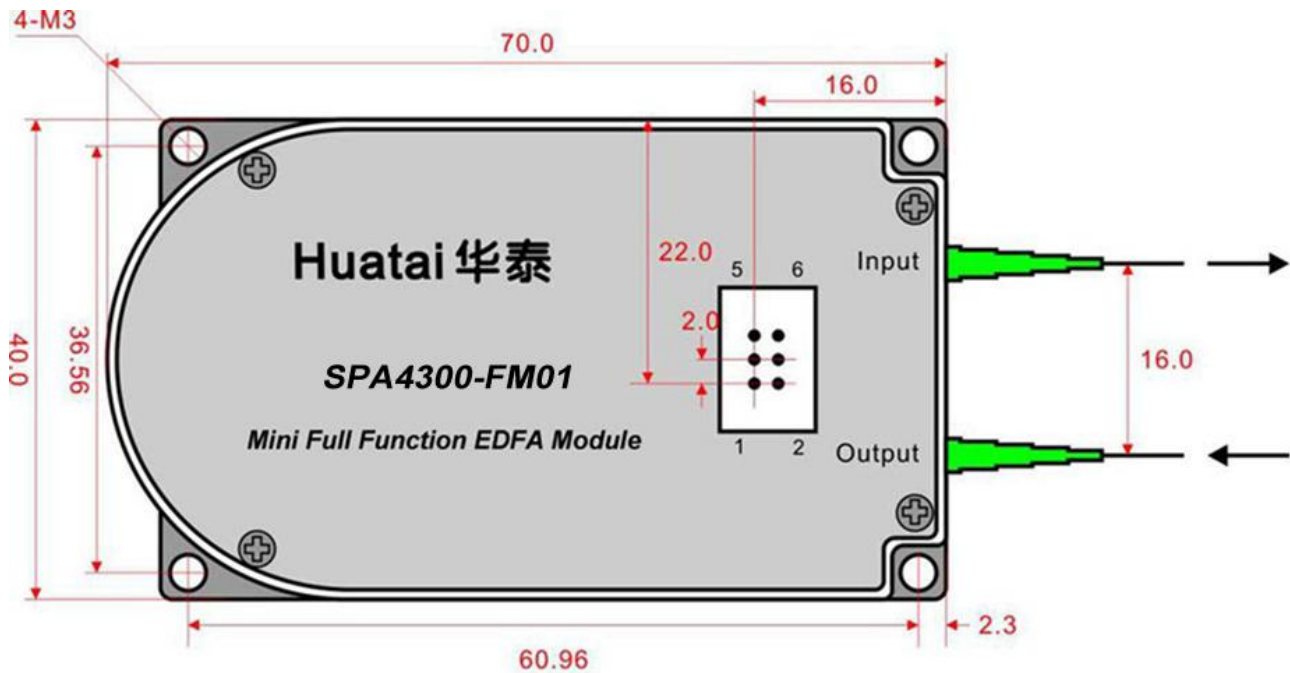
3.0 MAIN APPLICATION

- Metropolitan and access networks
- CATV
- Single-channel or DWDM sub-systems
- Optical Add/Drop and Cross-Connects
- Optical receiver power amplification
- Power equalization and flexible pre-emphasis

4.0 Functional diagram



5.0 Dimensions



Unit:mm



6.0 Electrical 6-Pin Assignments

Pin	Definition	Pin	Definition
1	RS-232 serial input	4	Alarm status
2	GND	5	GND
3	RS-232 serial output	6	Power supply +3.3V

Note: 6-Pin type: HIROSE DF11-6DP-2DSA

7.0 Technique index

Performance			Min.	Typ.	Max.	
Optic feature	Operating wavelength range		(nm)	1528		1564
	Input optical power (Pin)		(dBm)	-30		-10
	Signal gain @ Pin = -30dBm	SPA4315-FM01	(dB)	15		
		SPA4320-FM01		20		
		SPA4325-FM01		25		
		SPA4330-FM01		30		
	Noise figure@Pin=-30dBm		(dB)		4.0	4.5
	Polarization dependent gain (PDG)		(dB)			0.3
	Polarization mode dispersion (PMD)		(ps)			0.3
	Polarization dependent loss(PDL)		(dB)			0.3
	Pump power leakage		(dB)			-30
	Output & input isolation		(dB)	30		
	Return loss	UPC	(dB)	45		
		APC		55		
	Fiber type			SMF-28, 900μm loose tube		
Connector type			LC,SC, FC,			
Connector polish			UPC, APC			
General feature	Communication interface			RS232		
	Power supply voltage		(V)	3.1	3.3	3.5
	Power consumption		(W)		1.0	
	Operating temp.		(°C)	-5		70
	Store temp.		(°C)	-40		+85
	Relative humidity		(%RH)	+5		+95
	Size(W) × (L) × (H)		(mm)	40 × 70 × 12		

8.0 PRODUCT SERIES

Model	Gain (dB) (Pin=-30dBm)	Output power (dBm) (Pin=-30dBm)	Noise figure (dB)
SPA4315-FM01	15	-15	<4.5
SPA4320-FM01	20	-10	<4.5
SPA4325-FM01	25	-5	<4.5
SPA4330-FM01	30	0	<4.5

9.0 ORDER INFORMATION

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Product series	Optical bandwidth		Product Type		Gain		Module Type		Exterior		Connector		Fiber length		
	4	C-Band (1528~1564)	3	PA	15	15dB	FM	Full function module	01	40×70×12	LA	LC/APC	05	0.5M	
Single-channel PA EDFA Module	4	C-Band (1528~1564)	3	PA	20	20dB	FM	Full function module	02	70×90×15	LP	LC/UPC	08	0.8M	
					25	25dB			GM	Gain block module			05	125×150×20	SA
					30	30dB							SP	SC/UPC	
												FA	FC/APC		
												FP	FC/UPC		