

**SBA4100-FM01 Series**  
**Full Function Single Channel**  
**Small Form Factor EDFA Module**

**Technical Specification**

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## **1.0 PRODUCT DESCRIPTION**

SBA4100-FM01 is a full-function single channel booster EDFA module with digital control electronics, adopts subminiature 40×70×12mm compact package. The module uses high performance non-cooling pump laser, 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.

SBA4100-FM01 full-function EDFA module 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.

SBA4100-FM01 full-function booster EDFA module, main installed behind the optical transmitter to increase the output power of the transmitter and extend the signal transmission distance.

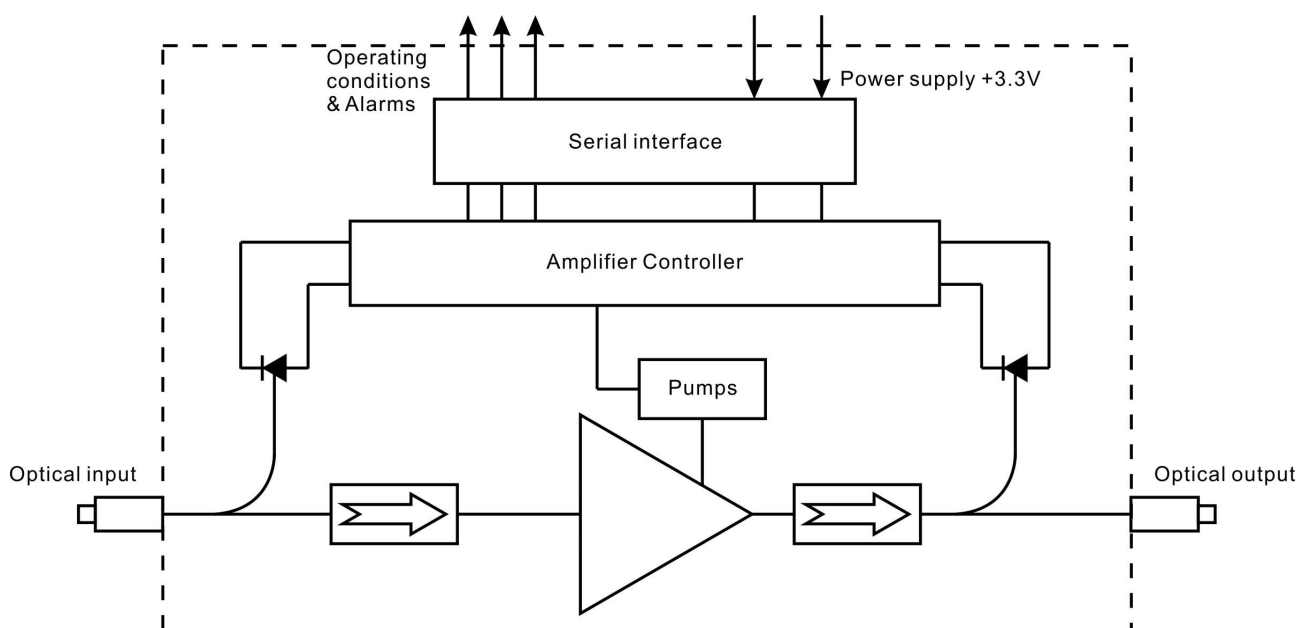
## 2.0 PRODUCT FEATURE

- With Digital Control Electronics (Full Function )
- APC, ACC mode
- RS-232 standard communication interface, (Optional I<sup>2</sup>C)
- Output power 13~19dBm optional
- Small form factor package (40×70×12mm )
- Low power consumption
- Low cost
- Wide operating temperature range

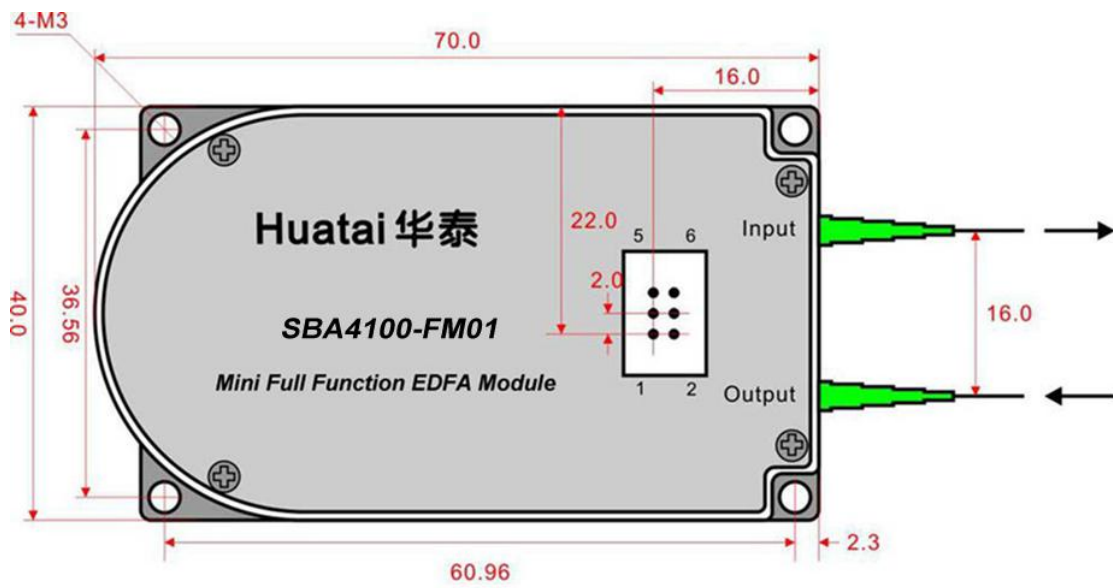
## 3.0 MAIN APPLICATION

- Metropolitan and access networks
- CATV
- Single-channel or DWDM sub-systems
- Optical Add/Drop and Cross-Connects
- Transmitter and Receiver 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)	-10		+4
	Total Output power @ Pin=0dBm	SBA4113-FM01	(dBm)	13		19
		SBA4114-FM01		14		
		SBA4115-FM01		15		
		SBA4116-FM01		16		
		SBA4117-FM01		17		
		SBA4118-FM01		18		
		SBA4119-FM01		19		
	Noise figure		(dB)		4.0	5.0
	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 ORDER INFORMATION

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Product series	Optical bandwidth		Product Type		Output power		Module Type		Exterior		Connector		Fiber length	
Single-channel BA EDFA Module	4	C-Band (1528~1564)	1	BA	13	13dBm	FM	Full function module	01	40 × 70 × 12	LA	LC/APC	05	0.5M
					14	14dBm			02	70 × 90 × 15	LP	LC/UPC	08	0.8M
					15	15dBm	GM	Gain block module	05	125 × 150 × 20	SA	SC/APC	10	1.0M
					16	16dBm			SP	SC/UPC				
					17	17dBm			FA	FC/APC				
					18	18dBm			FP	FC/UPC				
					19	19dBm								