

SBM4100-GM01 Series

Single Channel Gain Block Small Form Factor

EDFA Module



Description

Idealphotonics SBM4100-GM01 is a single-channel gain block booster EDFA module, 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.

SBM4100-GM01 gain block booster EDFA module adopts the standard version of single channel and narrow bandwidth. A standard 6-Pin (optional 14-PIN) electric connector allows the simple electric connection.

SBM4100-GM01 gain block booster EDFA module, main installed behind the optical transmitter to increase the output power of the transmitter and extend the signal transmission distance.

Feature

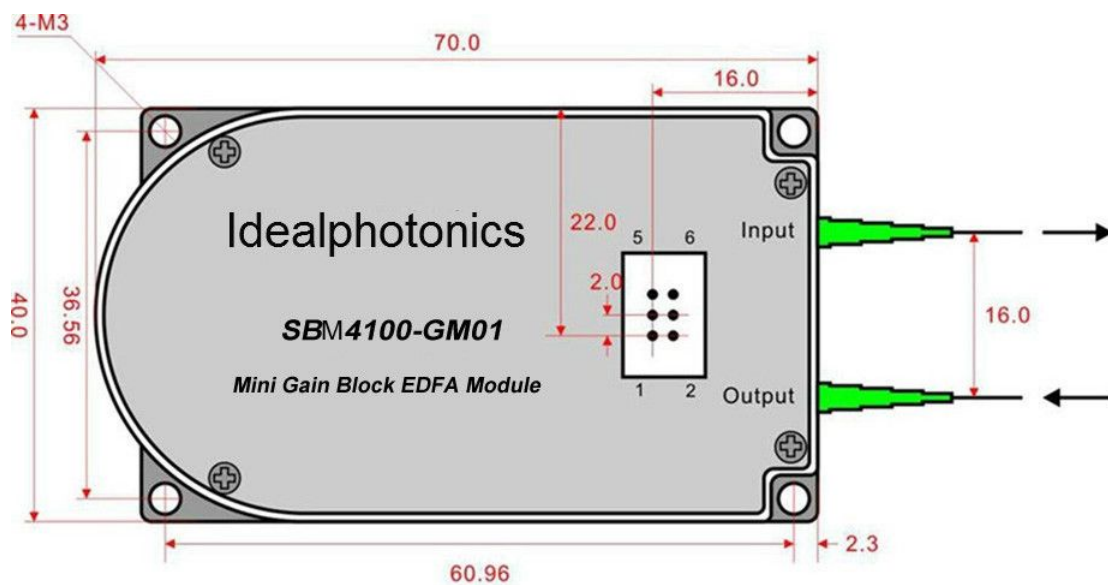
- Gain block
- Wide operating temperature range
- Output power 13~19dBm optional

- Small form factor package (40×70×12mm)
- Low power consumption
- Low cost

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

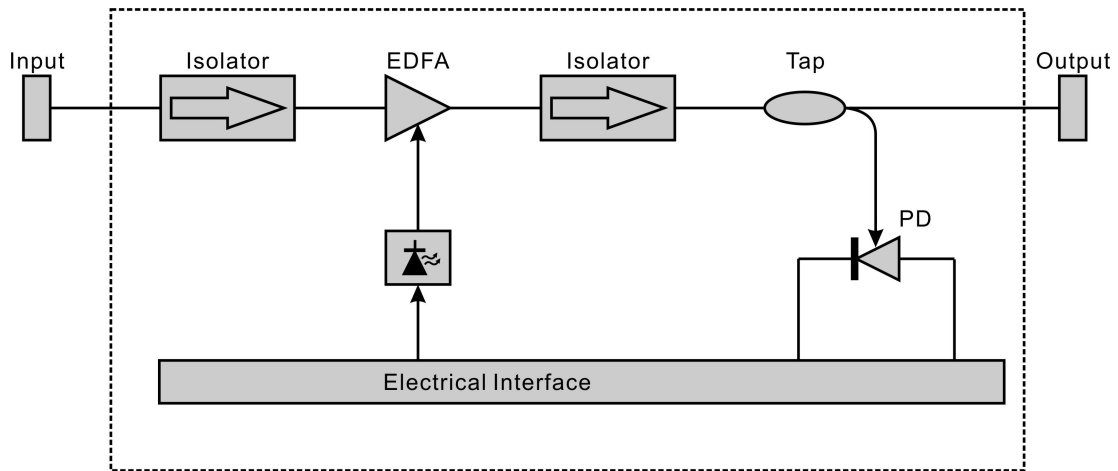
Dimensions



Unit:mm



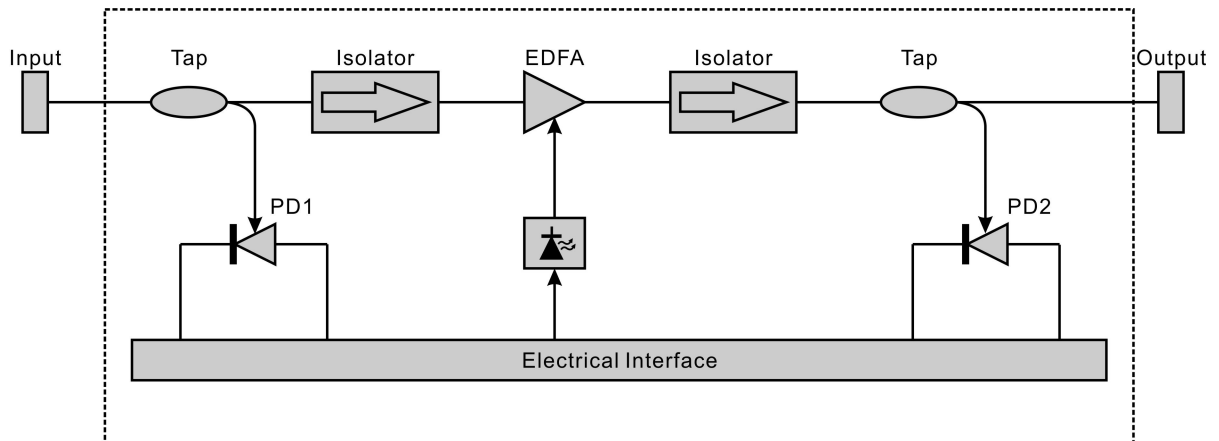
6-Pin FUNCTIONAL DIAGRAM



Electrical 6-Pin Assignments

Pin	Definition	Pin	Definition
1	Pump laser diode anode (+)	2	Pump laser diode cathode (-)
3	Pump laser PD anode (+)	4	Output monitor PD anode (+)
5	GND	6	Output monitor PD cathode (-)

14-Pin FUNCTIONAL DIAGRAM



Electrical 14-Pin Assignments

Pin	Definitio	Pin	Definition
1	Ground	2	Input monitor photodiode cathode(-)
3	Input monitor photodiode anode(+)	4	Output monitor photodiode cathode(-)

5	Output monitor photodiode anode(+)	6	NC
7	Laser diode anode(+)	8	Laser diode anode(+)
9	Laser diode monitor cathode(-)	10	Laser diode monitor anode(+)
11	Laser diode cathode(-)	12	NC
13	Ground	14	Laser diode cathode(-)

Note: 14-Pin type: HIROSE DF11-14DP-2DSA

Specification

Performance		Min.	Typ.	Max	
Optic feature	Operating wavelength range	(nm)	1528	1564	
	Input optical power (Pin)	(dBm)	-10	+4	
	Total Output power @ Pin=0dBm	SBM4113-GM01	(dBm)	13	19
		SBM4114-GM01		14	
		SBM4115-GM01		15	
		SBM4116-GM01		16	
		SBM4117-GM01		17	
		SBM4118-GM01		18	
		SBM4119-GM01		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		
Electrical feature	Pump laser threshold current (70℃)	(mA)	-	50	70
	Pump laser operating current (BOL)	(mA)	-	-	600
	Pump laser operating voltage	(V)	-	1.7	2.2*

	Output monitor PD responsivity (70℃)	(μ A/mW)	1.0		25
	Output monitor PD reverse voltage	(V)	-	5	20
	Output monitor PD forward current	(mA)	-	-	10
	Dark current (-5V, 25℃)	(nA)	-	-	5
General feature	Fiber type		SMF-28, 900 μ m loose tube		
	Connector type		LC,		
	Connector polish		UP		
	Operating temp.	(℃)	-5		70
	Store temp.	(℃)	-40		+85
	Operating relative humidity	(%RH)	+5		+95
	Size(W) × (L) × (H)	(mm)	40× 70 × 12		

* 70℃, 18dBm output.

Product series

Model	Max. Output power	Gain range	Mid-stage loss	Optical power monitoring mode	OSC optical monitoring
IWA4718-M00-S00	18dBm	16~28dB	0~8.5dB	Without	Without
IWA4720-M00-S00	20dBm	14~33dB	0~10.0dB		
IWA4723-M00-S00	23dBm	24~41dB	0~12.5dB		

Note: 1), Optical port monitoring mode options:

- 1, MO (With output monitoring optical port)
- 2, MI (With input monitoring optical port)
- 3, MIO (With input and output monitoring optical port)

2), OSC optical port mode of optical management channel:

- 1, OD (OSC/Drop)

2, OA (OSC/Add)

3, ODA (OSC/Drop & Add)

Ordering information

SBM 4 1 □□ - GM 01 - P□□ / □□ - □□

Product series	Optical bandwidth	Product Type		Output power		Module Type		Exterior		Number of Pin		Connector		Fiber length	
Single-channel BAEDFA Module	4 C-Band (1528~1564)	1	BA	13	13dBm	GM	Gain block module	01	40 × 70 × 12	P06	6-Pin	LA	LC/APC	05	0.5M
				14	14dBm			02	70 × 90 × 12	P14	14-Pin	LP	LC/UPC	08	0.8M
				15	15dBm	FM	Full function module	05	125 × 150 × 22			SA	SC/APC	10	1.0M
				16	16dBm			SP	SC/UPC						
				17	17dBm			FA	FC/APC						
				18	18dBm			FP	FC/UPC						
				19	19dBm										