DWDM EDFA Module EDFAMD Series

Model #: EDFAMD

Description: DWDM EDFA Module EDFAMD Series

DWDM EDFA is of high spectrum flatness over C-band. A unique APC (Automatic Power Control), AGC (automatic gain control) and ATC (Automatic Temperature Control) circuit design of this EDFA module ensures high stability and reliability for both output power and gain. The unique optical design achieves excellent optical performance. A high precision MPU (microprocessor unit) is employed to enable the controlling, adjustment and monitoring procedure intelligently and easily.

Professionally designed GFF (gain flattening filter) and optical circuit result in excellent WDM channel gain flatness and low noise figure.

This DWDM EDFA design includes dispersion compensation devices which meets long distance digital fiber communication's requirements such as (1) lower noise figure; (2) high output power booster and low sensitivity, ensuring dispersion and error rate to be optimized efficiently; (3) adjustable and compatible broad input and output power range.

It also features intelligent monitoring and managing system, common interface RS232, RS485 or TTL, which enables high compatibility for end user's system integration.

Application:

DWDM transmission system, Optical distribution system and rack mount optical amplifier system.

Features:

- Low noise figure: <5.0dB at 0dBm input
- High flatness: typ. 1.0 dB
- Covers C-band: handling 40 or 80 wavelengths
- High stability and reliability: MTBF >100,000 hours
- Perfect status monitoring interface: RS485 and RS232
- High precision AGC and ATC circuit
- Intelligent temperature control: power consumption and heat radiation reduced by 30%
- High Saturation output power
- Small form factor: compact structure and circuit
- OEM available
- Compatible
- with Bellcore GR-1321-Core

Specification List

Parameter		Unit	Specifications
Optical Specification			
Operating Wavelength		nm	1527 ~ 1564
Input Power	Booster	dBm	-10 ~ + 6
	Inline Amplifier		-25 ~ -10
	Pre-amplifier		-35 ~ -25
Output Power		dBm	13 ~ 23 (selectable)
Typ. Optical Gain		dB	20
Max. Gain Flatness		dB	1.5 (1.0 typ.)
Typ. Noise Figure (at 0 dBm input signal)		dB	5.0
Max. Output Power Stability		dB	+/- 0.1 (+/-0.05 typ.)
Max. Polarization Dependent Gain		dB	0.3
Max. Polarization Mode Dispersion		ps	0.5
Max. Return Loss		dB	-45
Electrical Characteristics			
Power Supply		VDC	3.0~3.5 (or 4.5~5.5)
Max. Power Consumption[1]		W	30
Environmental Specification			
Operating Temperature		°C	-5 to + 60
Storage Temperature		°C	-40 to + 80

Operating Humidity[2]	%	10 ~ 85	
Dimension (mm)	mm	164 (W) x 85 (D) x 18 (H)	

Communication Interface

Control	-	Output power, gain	
Computer Interface	-	26-pin interface	

(1) Actual power consumption depends on the output power and the environmental temperature
(2) No condensation

Interface Definition
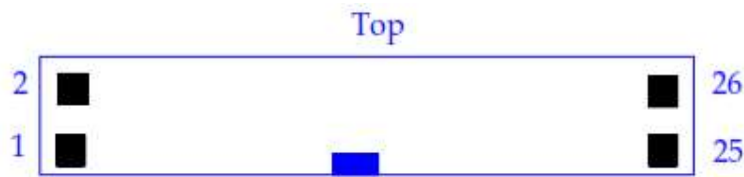
PIN Number	Assignment	Description	Remarks
1	+5V	+5V Power Supply	
2	+5V	+5V Power Supply	
3	+5V	+5V Power Supply	
4	+5V	+5V Power Supply	
5	NC	Reserve	
6	NC	Reserve	
7	Lop_Alarm	Module temperature alarm Output LVTTL level	1: Alarm 0: No alarm
8	T_case_Alarm	Module temperature alarm Output LVTTL level	1: Alarm 0: No alarm
9	T_pump_Alarm	Pump temperature alarm Output LVTTL level	1: Alarm 0: No alarm
10	I_pump_Alarm	Pump driving current alarm Output LVTTL level	1: Alarm 0: No alarm
11	+5V	+5V Power Supply	
12	Reset	Module resent Output LVTTL level	1: No reset 0: Reset
13	GND	Ground	
14	GND	Ground	
15	GND	Ground	
16	GND	Ground	
17	UART_TX/UART_485B	Serial port output port (LVTTL, RS323, RS485 Optional)	
18	GND	Ground	
19	UART_485Z	RS485 communication Z input (when in RS485 mode)	Floating in other mode
20	LOS_Alarm	Signal power alarm Output LVTTL level	1: Alarm 0: No alarm
21	UART_RX/UART_485A	Serial port input port (LVTTL, RS323, RS485 Optional)	
22	EN/DIS	Pump disable control input Input LVTTL level, the PIN is pull-up inside the module. User can leave it float for default	1: Pump on 0: Pump off
23	+5V	+5V Power Supply	
24	UART_485Y	RS485 communication Y input (When in RS485 mode)	Floating when in other mode
25	GND	Ground	
26	GND	Ground	

Remark:

- The communication way can be one of LVTTL, RS232 and RS485 by factory. And it cannot be switched by software when delivery.
- PIN 17 can be used as LVTTL_TX or RS232_TX or RS485B. PIN 21 can be used as LVTTL_RX or RS232_RX or RS485A.
- When LVTTL or RS232 mode is designated, PIN19 and PIN24 should be floating.

Mechanical Dimension
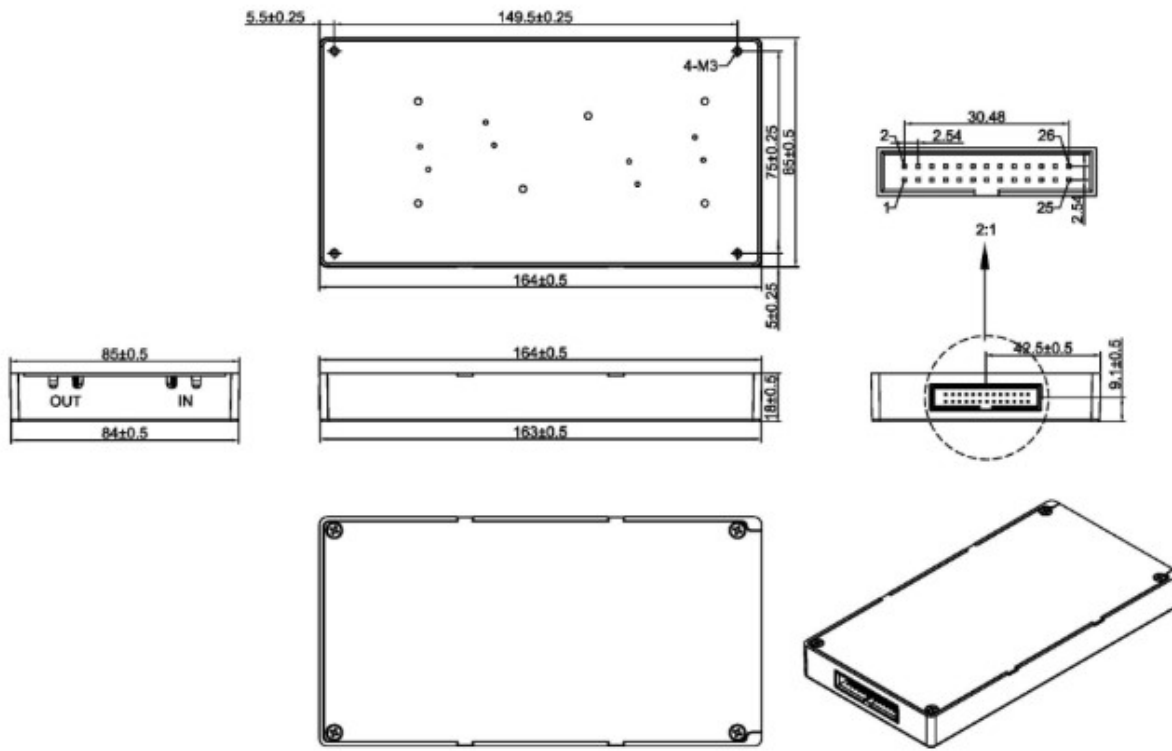
Ordering Information: EDFAMD-A-BB-C-D-E

A: EDFA type	BB: output power	C: output ports	C: driver voltage	D: connector type
3 – pre-amplifier	13 - 13 dBm	1 – 1 port	7 – 5 VDC	1 – SC/UPC
4 – inline amplifier	15 - 15 dBm	2 – 2 ports	8 – 3.3 VDC	2 – SC/APC
5 - booster	……			3 – FC/UPC
9 - other	23 - 23dBm			4 – FC/APC
				5 – LC/UPC
				6 - LC/APC