

EATV5100-FM05-EDFA module



Description

The EATV5100-FM05 standard Booster EDFA module provides high power, high reliability, and superior optical performance in an industry standard form factor. This product enables deployment for flexible, high-density optical networks, while reducing capital and operating applications' requirements. This module is ideal for today's highly dynamic networks and cost sensitive market.

EATV5100-FM05 Full Function Booster EDFA Module adopts Standard Versions for Single Channel and Narrowband. The EDFA includes a cooling pump laser, input monitor and input isolator, output monitor and output isolator, and a reel of optimized erbium-doped fiber. These components are contained within a standard 150×125×22mm package.

A user-friendly 25-pin interface is included to enable the device to communicate with control electronics.

Feature

Perfect laser APC, AGC, ATC closed-looped circuit ensuring long life and stable operation of the pump laser.

Low noise figure and flat gain.

Adopts famous Fitel Raman pump laser.

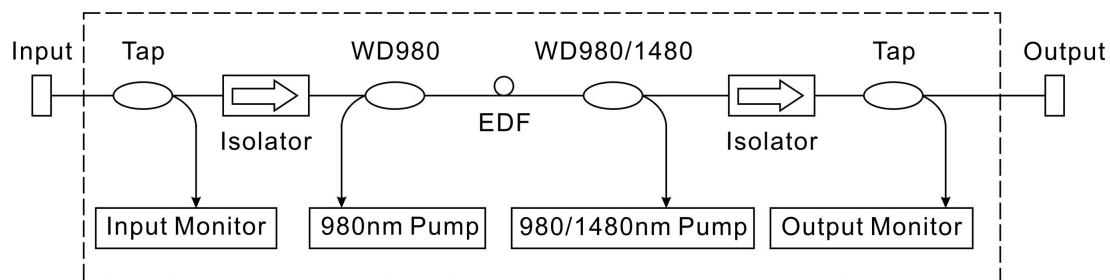
Gain bandwidth: C & L-Band (1528~1604nm).

Application

- Long-Haul and Metro Network

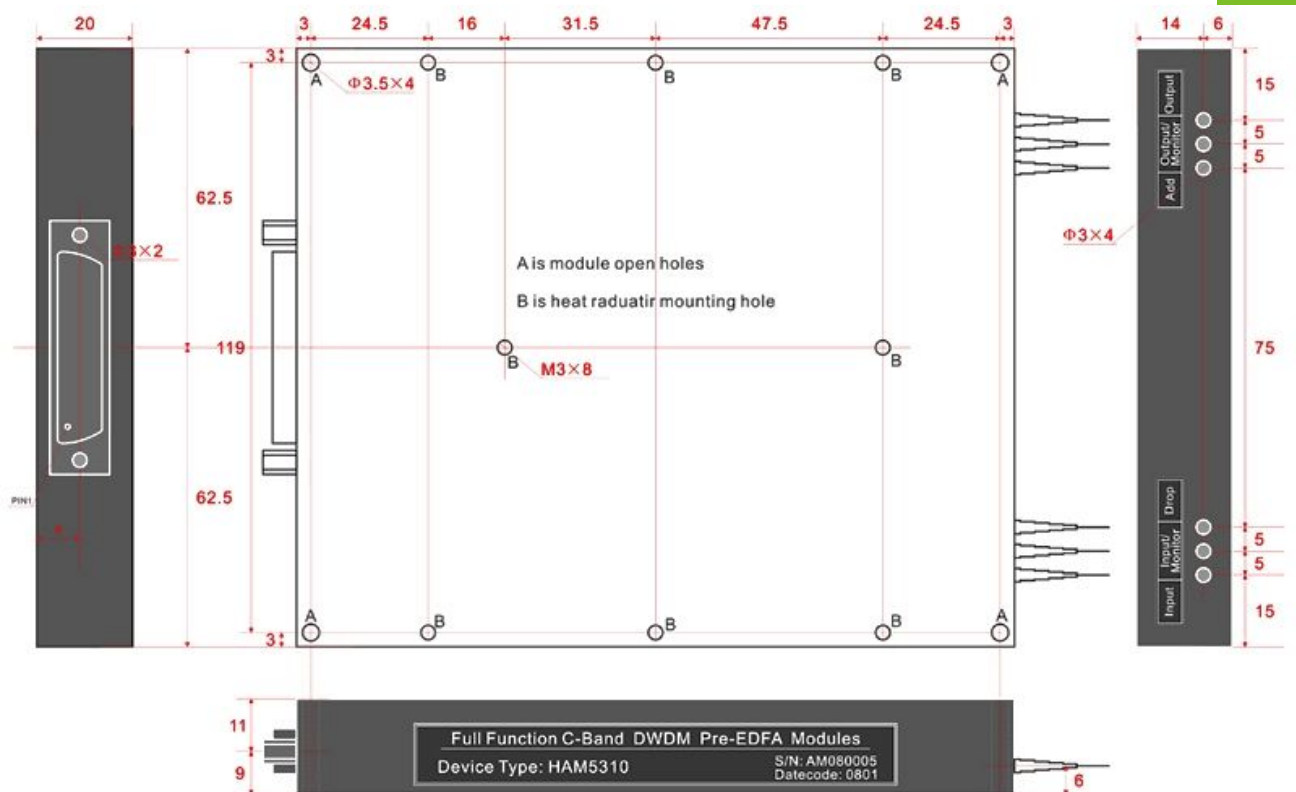
- Single-Channel (SDH/SONET) or DWDM networks
- Wavelength Add/Drop and optical Cross Connect Power Equalization
- Transmitter and Receiver Amplification
- Digital CATV
- Amplifier for long-haul networks
- Switch matrix
- Power equalization and pre-emphasis

FUNCTIONAL DIAGRAM

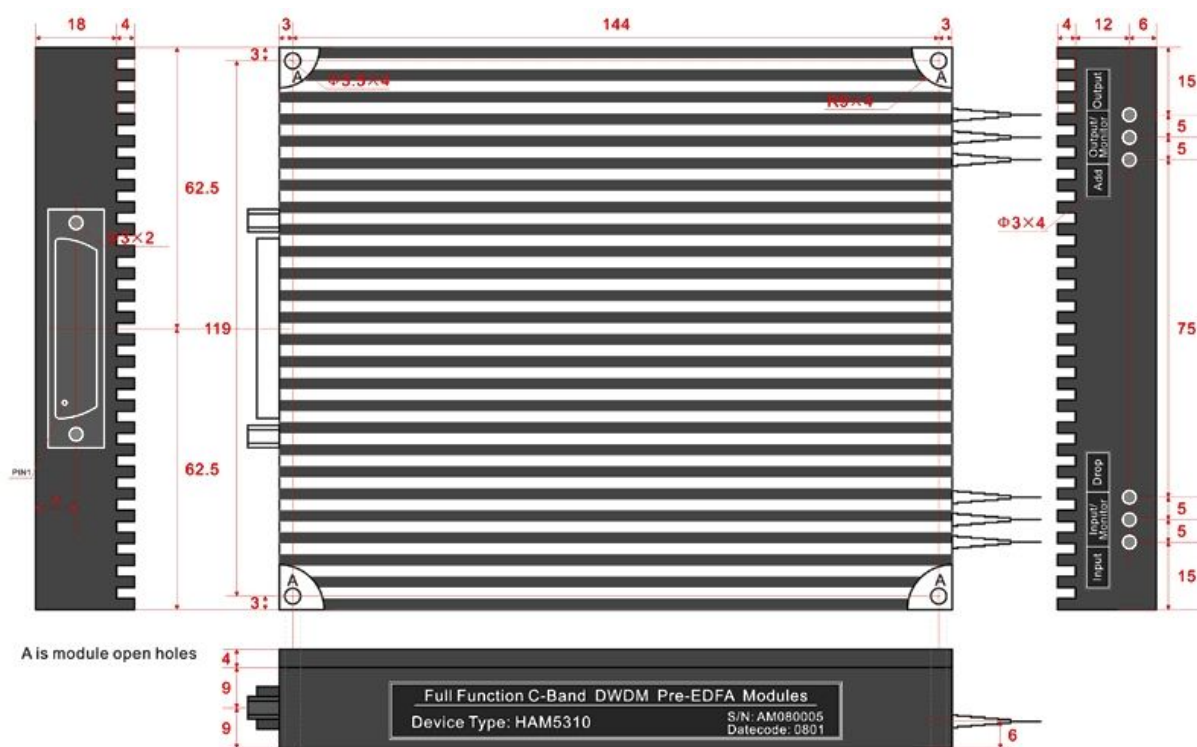


DIMENSION

WITHOUT HEAT RADIATOR.



HEAT RADIATOR



Specification

Performance		Condition	Min.	Typ.	Max.
Operating wavelength range	(nm)		1528		1563
Input power (pin)	(dBm)		-10		+4
Output power	(dBm)	Pin=0dBm	+16		+27
Noise figure	(dB)	Pin = - 6dBm		5.0	6.0
Polarization dependent loss (PDL)	(dB)				0.3
Polarization dependent gain (PDG)	(dB)				0.5
Polarization mode dispersion (PMD)	(ps)				0.5
Pump power leakage	(dB)				-30
Output & input isolation	(dB)		30		
Return loss	(dB)		40		

Operating temp.	(°C)		0		65
Storage temp.	(°C)		-40		+85
Operating humidity	(%)		+5		+85
Power consumption, Un-cooled pump	(W)				1.5
Fiber type		SMF-28, 900μm loose tube			
Connector type		SC, FC, LC, MU, E2000			
Connector polish		UPC,			
Dimensions	(mm)	125×150×			

Note: The range of optical input power can be specified.

INPUT AND OUTPUT MONITOR PD SPECIFICATIONS

Performance		Min.	Typ.	Max.
Input monitor PD responsivity	(μA/mW)	30	-	75
Output monitor PD responsivity	(μA/mW)	1.0	-	25
Monitor PD reverse voltage	(V)	-	5	20
Monitor PD forward current	(mA)	-	-	10
Dark current (-5v, 25°C)	(nA)	-	-	5

TEC COOLED PUMP LASER SPECIFICATIONS

Performance		Output power of 13 to 17dBm			Output power of 18 to 23dBm		
		Min.	Typ.	Max.	Min.	Typ.	Max.
Pump laser threshold current	(mA)	-	-	50	-	-	50
Pump laser forward current (BOL)	(mA)	-	-	500	-	-	1000
Pump laser forward voltage	(V)	-	-	2.5	-	-	2.5
Pump laser reverse voltage	(V)	-	-	2.0	-	-	2.0
TEC current (max. ΔT=50°C)	(A)	-	-	1.3	-	-	1.8
TEC voltage (max. ΔT=50°C)	(V)	-	-	2.8	-	-	3.3
Thermostat resistance (25°C)	(KΩ)	9.5	10	10.5	9.5	10	10.5

PIN DEFINITION

The EDFA module has a DB25 Pin of male electric port. The Pin definition is as below:

Pin	Definition	Pin	Definition
1	VCC +5V	14	GND
2	VCC +5V	15	GND
3	VCC +5V	16	GND
4	VCC +5V	17	GND
5	NC (dual power supply is -5V)	18	RS232 out (TTL) TXD
6	NC (dual power supply is -5V)	19	Input power alarm*
7	EDFA temp. alarm*(TTL)	20	NC
8	Output power alarm*(TTL)	21	Amplifier expiration input
9	Pump bias current alarm*(TTL)	22	RS232 in (TTL) RXD
10	Pump temp. alarm*(TTL)	23	NC
11	NC	24	VCC +5V
12	VCC +5V	25	GND
13	GND		

* All warning set at the TTL high level.

Product series

Model	Output power (dBm) (Pin=0dBm)	Input power range(dBm)	Noise figure(dB) (Pin=0dBm)	Input power monitor	Output power monitor
EATV5116-FM05	≥16	-10~+4	4	With	With
EATV5117-FM05	≥17	-10~+4	4	With	With
EATV5118-FM05	≥18	-10~+4	4	With	With
EATV5119-FM05	≥19	-10~+4	4	With	With
EATV5120-FM05	≥20	-10~+4	4	With	With
EATV5121-FM05	≥21	-10~+4	5	With	With

EATV5122-FM05	≥22	-10~+4	5	With	With
EATV5123-FM05	≥23	-10~+4	5	With	With
EATV5124-FM05	≥24	-10~+4	5	With	With
EATV5125-FM05	≥25	-10~+4	5	With	With
EATV5126-FM05	≥26	-10~+4	5	With	With
EATV5127-FM05	≥27	-10~+4	5	With	With

Ordering information

EATV 5 1 □□ - FM 05 / C 5 1 - □□ - □□

Product series	Optical bandwidth		Product Type		Output power		Module Type		Exterior		PUMP		Input tap ratio		Output tap ratio		Connector		Fiber length	
CATV EDFA Module	5	1540~1563nm CATV	1	BA	16	16dBm	FM	Full function module	01	40 × 70 × 12	U	Un-cooled	0	None	1	1%	LA	LC/APC	05	0.5M
					17	17dBm			02	70 × 90 × 15	C	Cooling	5	5%			LP	LC/UPC	08	0.8M
					18	18dBm	GM	Gain block module	05	125 × 150 × 22							SA	SC/APC	10	1.0M
					19	19dBm											SP	SC/UPC		
					20	20dBm											FA	FC/APC		
					21	21dBm											FP	FC/UPC		
					22	22dBm														
					23	23dBm														
					24	24dBm														
					25	25dBm														
					26	26dBm														
					27	27dBm														