

EATV5200-GM02 Series

MSA Compact (70 × 90 × 12mm) CATV EDFA Module

(Gain Block)



Description

EATV5200 series is a low noise, high performance, high cost-effective

EDFA module, which is specially designed for CATV system. GM is Gain Block Module, without electronic control circuit.

FM is Full function Module which is with electronic control circuit.

EATV5200-GM01 is a gain module, using 40×70×12mm mini package, with single channel and narrow bandwidth standard version. A standard 6-pin or 12-pin electric connector provides simple electrical connection. The module adopts a high performance uncooled pump laser, the output optical power up to 19dBm.

Idealphotonics is a famous manufacture of EDFA. Products with high-performance, high reliability and excellent cost performance, as well as our good service make it to be an ideal choice for OEM system integrators.

Feature

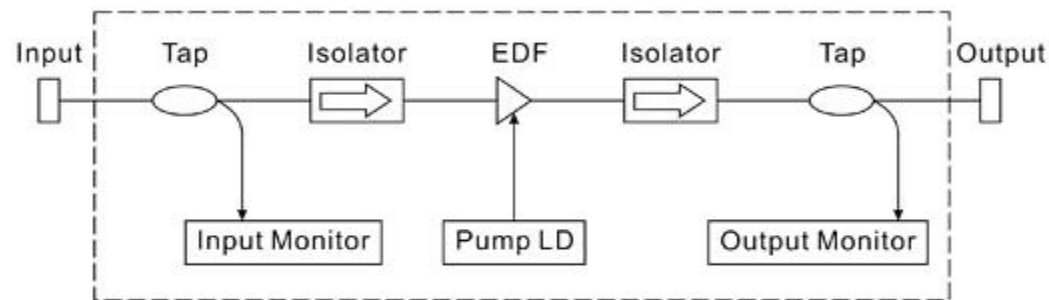
- High performance gain module
- MSA Compact Form Factor (70×90×12mm)
- The output optical power up to 23dBm
- Excellent optical performance
- Low noise figure, suitable for all kinds of CATV application

- Low consumption
- Wide range of working temperature
- Excellent cost performance

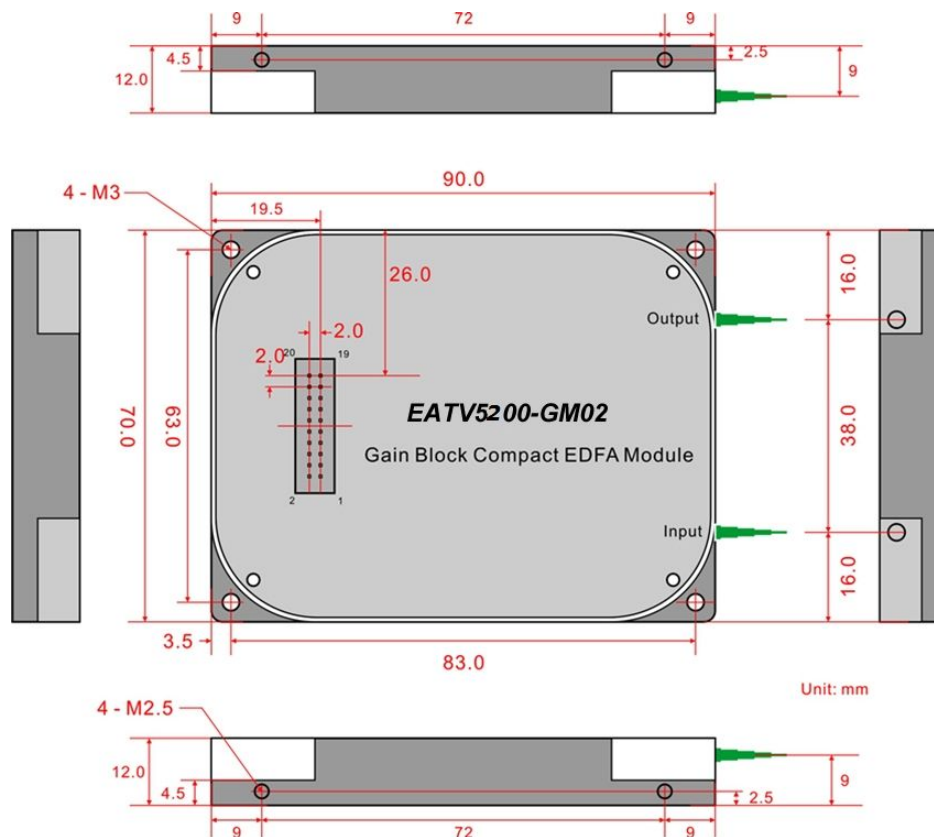
Application

- CATV
- FTTx PON
- Other single channel optical communication system

FUNCTIONAL DIAGRAM



DIMENSION



Specification

Optical characteristics

Performance		Min.	Typ.	Max.	Supplement	
Optical feature	Operating wavelength range	(nm)	1528		1564	
	Typical applications	(nm)	1540		1564	
	Input power (pin)	(dBm)	-10		+10	
	Output power	(dBm)	+13		+23	Pin=0dBm
	Noise figure	(dB)		4.5	5.0	Pin= -6dBm
	Polarization dependent loss (PDL)	(dB)			0.3	
	Polarization dependent gain (PDG)	(dB)			0.3	
	Polarization mode dispersion	(ps)			0.3	
	Pump power leakage	(dB)			-30	
	Output & input isolation	(dB)	30			
	Return loss	(dB)	40			
	Fiber type		SMF-28, 900μm loose tube			
	Connector type		SC, FC, LC, MU, E2000			
	Connector polish		UPC, APC			
General feature	Operating temp.	(°C)	0		65	
	Storage temp.	(°C)	-40		+85	
	Operating humidity	(%)	+5		+85	
	Power consumption, Un-cooled	(W)			1.5	
	Dimensions	(mm)	70×90×12			

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

* 70°C, 18dBm output.

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. $\Delta T=50^{\circ}\text{C}$)	(A)	-	-	1.3	-	-	1.8
TEC voltage (max. $\Delta T=50^{\circ}\text{C}$)	(V)	-	-	2.8	-	-	3.3
Thermistor resistance (25°C)	(K Ω)	9.5	10	10.5	9.5	10	10.5
6	No connector or thermistor			12	Pump laser diode cathode (-)		

GAIN BLOCK PIN ASSIGNMENT

Pin	Definition	Pin	Definition
1	Ground, optical power monitor PD	2	Input monitor PD cathode (-)
3	Input monitor PD anode (+)	4	Output monitor PD cathode (-)
5	Output monitor PD anode (+)	6	Thermistor
7	Pump laser diode anode (+)	8	Pump laser diode anode (+)
9	Pump backfacet monitor PD cathode (-)	10	Pump backfacet monitor PD anode (+)
11	TEC anode (+), (NC for uncooled)	12	TEC anode (+), (NC for uncooled)
13	TEC anode (+), (NC for uncooled)	14	TEC cathode (-), (NC for uncooled)
15	TEC cathode (-), (NC for uncooled)	16	TEC cathode (-), (NC for uncooled)
17	Ground, pump laser diode	18	Thermistor
19	Pump laser diode cathode (-)	20	Pump laser diode cathode (-)

Note 1: Electrical connection is made via a male 20 PIN connector (2 rows of 10, pin pitch 2.0mm, 0.5×0.5mm), Samtec TMMH-110-01-G-DV-EC or equivalent.

Note 2: The gain block case is isolated with the pump laser diode case.

Product series

Model	Output power (dBm)	Input power range (dBm)	Noise figure (dB) (Pin=0dBm)	Input power monitor	Output power monitor
EATV5213-GM02	≥13	-10~+4	4.5	With	With
EATV5214-GM02	≥14	-10~+4	4.5	With	With
EATV5215-GM02	≥15	-10~+4	4.5	With	With
EATV5216-GM02	≥16	-10~+4	4.5	With	With
EATV5217-GM02	≥17	-10~+4	4.5	With	With
EATV5218-GM02	≥18	-10~+4	4.5	With	With
EATV5219-GM02	≥19	-10~+4	4.7	With	With
EATV5220-GM02	≥20	-10~+4	4.7	With	With
EATV5221-GM02	≥21	-10~+4	5.0	With	With
EATV5222-GM02	≥22	-10~+4	5.0	With	With
EATV5223-GM02	≥23	-10~+4	5.0	With	With

Note: Optional P12, with input power monitor

Ordering information

EATV 5 2 □□ - GM 02 - 0 1 / □□ - □□

Product series	Optical bandwidth		Product Type		Output power		Module Type		Exterior		Input tap ratio		Output tap ratio		Connector		Fiber length	
CATV EDFA Module	5	1540~1563nm CATV	2	BA	13	13dBm	GM	Gain block module	01	40 × 70 × 12	0	None	1	1%	LA	LC/APC	05	0.5m
					14	14dBm			02	70 × 90 × 15	5	5%	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												
					20	20dBm												
					21	21dBm												
					22	22dBm												
23	23dBm																	