

EATV5100-GM01 (40×70×12mm)

Small Form Factor CATV EDFA Module (Gain Block)

PRODUCT DESCRIPTION

EATV5100 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.

EATV5100-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.



Guangtai 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.

PRODUCT FEATURES

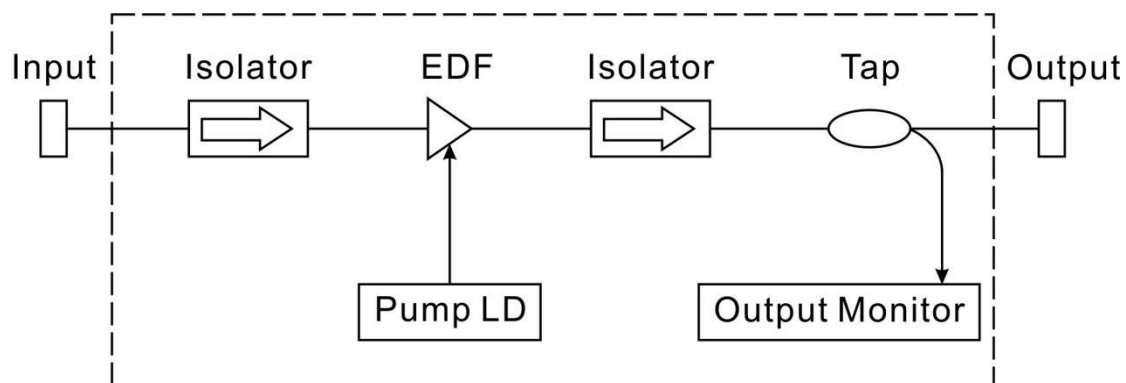
- ▶ High performance gain module
- ▶ Small form factor package (40×70×12mm)
- ▶ The output optical power up to 19dBm
- ▶ Excellent optical performance
- ▶ Low noise figure, suitable for all kinds of CATV application
- ▶ Low consumption
- ▶ Wide range of working temperature
- ▶ Excellent cost performance

MAIN APPLICATION

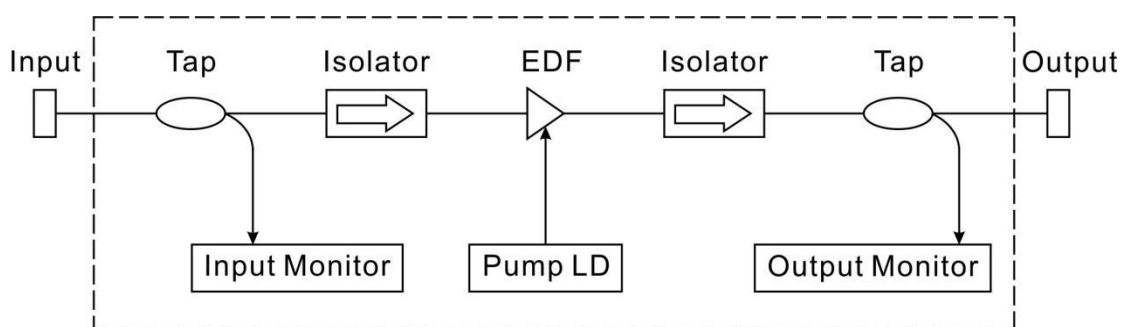
- ▶ CATV
- ▶ FTTx PON
- ▶ Other single channel optical communication system

FUNCTIONAL DIAGRAM

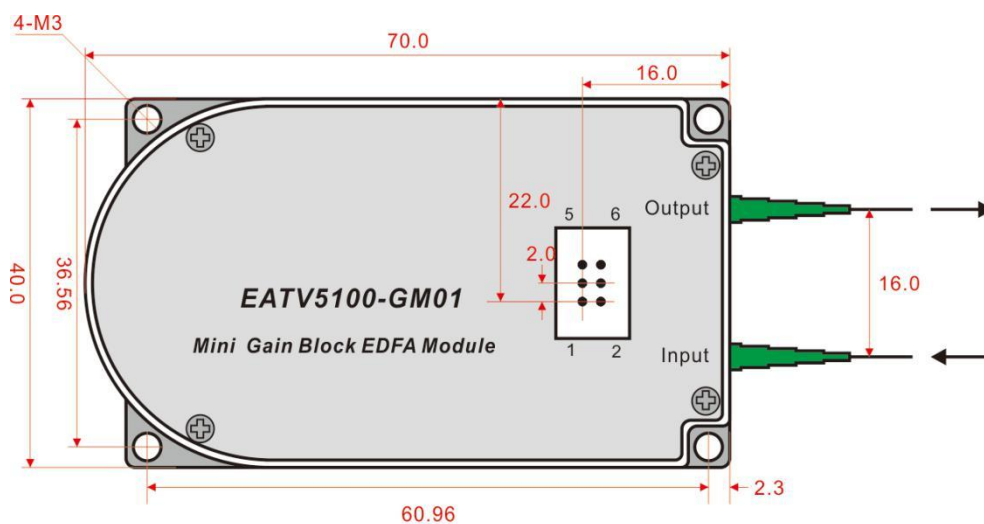
6-pin functional diagram



12-pin functional diagram



DIMENSIONS



Unit:mm



TECHNICAL INDEX

Optical characteristics

Performance		Min.	Typ.	Max.	Supplement
Optical feature	Operating wavelength range	(nm)	1528		1564
	Typical applications	(nm)	1540		1564
	Input optical power (pin)	(dBm)	-20		+3
	Total output power @ Pin=0dBm	(dBm)	8		19
	Noise figure	(dB)		4.5	5.0
	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		
	Fiber type		SMF-28, 900μm loose tube		
	Connector type		SC, FC, LC, MU, E2000		
	Connector polish		UPC, APC		
General feature	Operating temp.	(℃)	0		65
	Storage temp.	(℃)	-40		+85
	Relative humidity	(%)	+5		+85
	Power consumption, Un-cooled pump	(W)			1.5
	Size (W)×(D)×(H)	(mm)	40×70×12		

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

Electrical specifications

Performance		Min.	Typ.	Max.
Pump laser threshold current	(mA)	-	50	70
Pump laser operating case temp.	(°C)		50	70
Pump laser operating current (BOL)	(mA)	-	-	600
Pump laser operating voltage	(V)	-	1.75	2.2*
Output monitor PD responsivity (70°C)	(μA/mW)	0.3	1.1	15
Output monitor PD reverse voltage	(V)	-	5	20
Output monitor PD forward current	(mA)	-	-	10
Dark current (-5V, 25°C)	(nA)	-	-	5

* 70°C, 18dBm output.

GAIN BLOCK PIN ASSIGNMENT

6-pin gain block pin assignment

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

Pump laser diode anode shares the same pin with pump laser PD cathode.

12-pin gain block pin assignment

Pin	Definition	Pin	Definition
1	Ground, Optical power monitor photodiode	7	Pump laser backface monitor cathode (-)
2	Input monitor photodiode cathode (-)	8	Pump laser back face monitor anode (+)
3	Input monitor photodiode anode (+)	9	No connector or thermistor
4	Output monitor photodiode cathode (-)	10	Pump laser diode anode (+)
5	Output monitor photodiode anode (+)	11	Pump laser diode case
6	No connector or thermistor	12	Pump laser diode cathode (-)

PRODUCT SERIES

Model	Output power (dBm) (Pin=0dBm)	Input power monitor	Output power monitor	Number of Pin
EATV5108-GM01-P06	≥08	NC	With	6
EATV5110-GM01-P06	≥10	NC	With	6
EATV5112-GM01-P06	≥12	NC	With	6
EATV5113-GM01-P06	≥13	NC	With	6
EATV5114-GM01-P06	≥14	NC	With	6
EATV5115-GM01-P06	≥15	NC	With	6
EATV5116-GM01-P06	≥16	NC	With	6
EATV5117-GM01-P06	≥17	NC	With	6
EATV5118-GM01-P06	≥18	NC	With	6
EATV5119-GM01-P06	≥19	NC	With	6

MODEL EXPLANATION

