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MSA C-Band Booster EDFA with 20/30dB Gain

User Manual

P/N: EDFA-1(2)CxM(H)xxxxxxx

Version: 2024 - 10

1 Ambient Parameters

Parameter	Min.	Typical	Max.	Unit	Note
Working Temperature	-5		55	℃	
Storage Temperature	-40		85	℃	
Working Relative Humidity	15		85	%	40°C non-condensation
Storage Relative Humidity	10		90	%	

2 Optical Parameters

Parameter	Min	Typical	Max	Unit	Note
Return Loss	45	-	-	dB	
Input & Output Fiber type	SMF-28e, 900um white loose tube			-	
Output Fiber Length	99	100	101	cm	100 ± 1cm, without connector
Input Fiber Length	99	100	101	cm	100 ± 1cm, without connector
Input & Output Fiber Connector Type	FC/APC			-	
Module Dimension	(W*L*H)90*70*15			mm	
Working Mode	AGC				
No Optical Power Report	-60			dBm	
Output power stability	-	-	±0.1	dB	
Accuracy of power reporting	-	-	±0.5	dB	
Gain control accuracy	-	-	±0.5	dB	
Output Power control accuracy	-	-	±0.5	dB	
Input & Output Isolation	-	35	-	dB	
In & Out Pump Leakage	-	-	-30	dBm	
PDG	-	-	0.5	dB	
PMD	-	-	0.5	ps	
CD	-	-	±5	ps/nm	
Multipath interference	-	-	-40	dB	

Operating Wavelength	1528	-	1565	nm	
Input Power Range	-30	-	10	dBm	
Gain	20	20/ 30	33	dB	Flatness<2.0 Gain adjustable range is ±1.5dB. Accuracy of normal temperature gain setting is 0.1dB.
Max Output Power	10 - 24			dBm	Varies by model
Input @ Typical	-10			dBm	
NF	-	5.5	6	dB	@Gain=20dB
GF	-	1	1.5	dB	@In=-3dBm，G=20dB
Input Power Alarm Threshold	-33	-31	-10	dBm	Settable range -33 ~ -10 dBm, Upward hysteresis 1dB, <-33dBm reporting no optical power
Output Power Alarm Threshold	-8	-6	23	dBm	Settable range -8 ~ +20.5, Upward hysteresis 1dB, <-8 reporting no optical power

Pump off threshold	-33	-33	-10	dBm	Settable range -33~-5, Upward hysteresis 1dB
APC Output power setting range	-5	-	20	dBm	Setting accuracy is 0.1dB
Default temperature alarm threshold	-5	70	70	℃	Settable range -5~+70℃ Upward hysteresis 1℃
Ports	-	2	-	-	Input & output

3 Electrical Indicators

3.1 Power Supply:

Parameter	Min	Typical	Max	Unit	Note
Voltage	4.75	5.0	5.25	V	
Current	-	-	3.0	A	
Power Consumption	-	-	15	W	

3.2 Pin definition

3.2.1 Communication Port

Type：34Pin 2.00mm intervals male socket CJT A2005WV-N-2x17P

3.2.2 Pin definition:

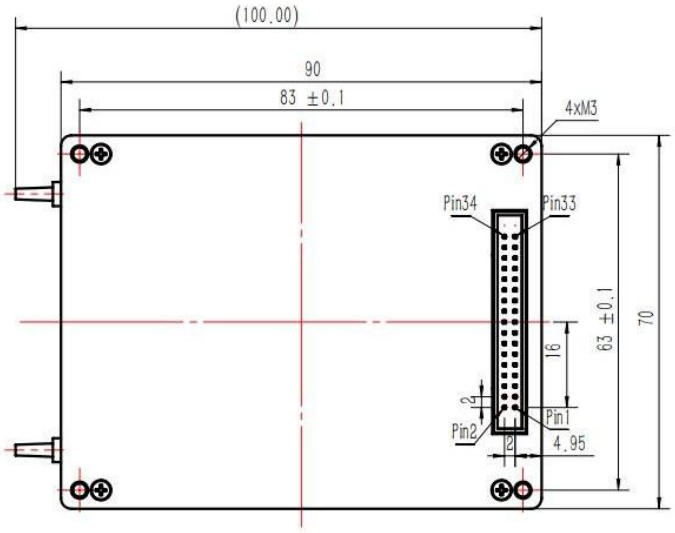
Pin No.	Name	Attribute	Level Type
1	NC	F	
2	NC	F	
3	+5V	P	
4	+5V	P	
5	+5V	P	
6	+5V	P	
7	GND	P	
8	GND	P	
9	NC	F	
10	NC	F	
11	GND	P	
12	GND	P	
13	NC	F	
14	NC	F	
15	NC	F	
16	NC	F	
17	NC	F	
18	NC	F	
19	NC	F	
20	NC	F	
21	NC	F	
22	NC	F	
23	GND	P	
24	GND	P	
25	Serial Port Input	I	LVTTL
26	Serial Port Output	O	LVTTL
27	GND	P	
28	GND	P	
29	+5V	P	
30	+5V	P	
31	+5V	P	
32	+5V	P	
33	NC	F	
34	NC	F	

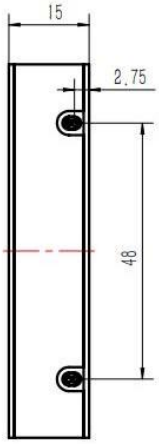
* P: Power, I: Input, O: Output, F: None

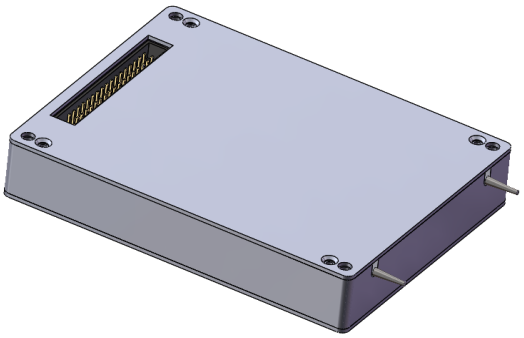
4 Serial Port Communication Protocol

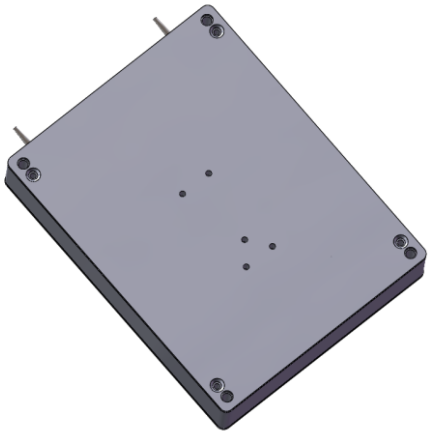
Parameter	Value	Unit
Baud rate	9600	Bit/s
Data bit	8	Bit
Stop bit	1	Bit
Parity bit	None	

5 Module Dimensions







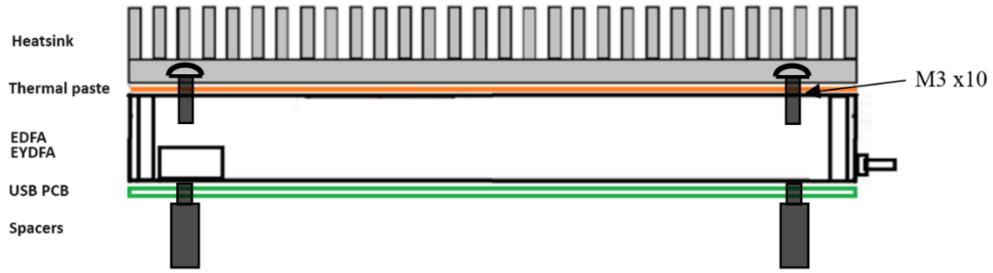


6 Application Notes

- RS232-to-USB converting needs to be done by user. FTDI chip is recommended.

  * Benchtop is available at https://agiltron.com/.

  * RS232-to-USB converting PCB is also available at https://agiltron.com/.

- Upon accomplishment of the above EDFA can be remotely controlled by UART commands or the 'EDFA GUI' program (EDFA-L option) provided.

- Heatsink is needed for this EDFA, as shown below.