Finisar

Product Specification

M2200CB Fixed Gain EDFA, 17 dBm OP, 15 dB Gain

PN: FOA-M2200CB-EFG1C-AA002

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Customer: General

Product Features

- Fixed Gain EDFA with control electronics
- APC or AGC control modes
- Optional SW configurable pre-amp and booster operation modes for wider range of applications
- Output power up to 17 dBm
- Low noise figure
- Gain flattened for DWDM applications
- Standard 70x90x15 package
- Standard command protocol according to IEC 61291-6-1
- Low power dissipation
- RoHS compliant and lead free
- Class 1M* laser safety classification

Applications

- Regional, metro and access DWDM networks
- ROADM line cards
- Booster, pre-amp or inline

The M2200CB Fixed Gain EDFA module is a micro processor-controlled EDFA for the C-band. It is optimized for a large input dynamic range while providing excellent noise performance and fast transient suppression, allowing the output power to be kept constant also in cases when there are fast changes in input power. The amplifier optionally supports both pre-amp mode and booster mode in the same part number (configured via SW).

Optical Specification

Parameter	Units	Specification			Notes
		Min.	Typ	Max.	
Wavelength Bandwidth	nm	1529.5		1564	
Input Power Range	dBm	-27		2	Booster mode.
		-35		-3	Pre-amp mode.
Output Power Range	dBm	-7.0		+17	Signal power, excluding ASE at optimal gain. With ASE output is higher.
Saturated Output Power	dBm	17			
Optimal Gain	dB		15		Optimal for gain flattening
Settable Gain Range (Booster mode)	dB	10		20	Spectrum tilt is about 0.9dB for every 1dB away from optimal gain.
Settable Gain Range (Pre-amp mode)	dB	13		25	
Noise Figure	dB			6	At optimal gain, maximum output.
Gain Stability	dB			±0.10	
Gain Setting Accuracy	dB	-0.25		+0.25	
Gain Flatness vs. Wavelength	dB		± 0.5	± 0.6	At optimal gain
Overshoot/Undershoot for 16dB Add/Drop Transient	dB			±1.5	At optimal gain
Stabilization Time after Transient	µsec			500	
In/Out Return Loss (pumps on)	dB	40			
PDG + PDL	dB			0.3	
PMD	ps			0.3	
Power Measurement Accuracy	dB			± 0.5	

Optical Connectors

The EDFA is equipped with 3 Optical connections with fiber length of 100cm.

Connector	Type	Color	Description
OUT	LC/UPC	White	Output optical port
IN	LC/UPC	Black	Input optical port
Monitor Output	LC/UPC	Blue	1% Output monitor

Electrical Specification

Parameter	Units	Specification			Notes
		Min.	Typ	Max.	
Supply Voltage	V	4.75		5.25	
Power Consumption	W			8	Over case temp range to EOL

Electronic Pin-out

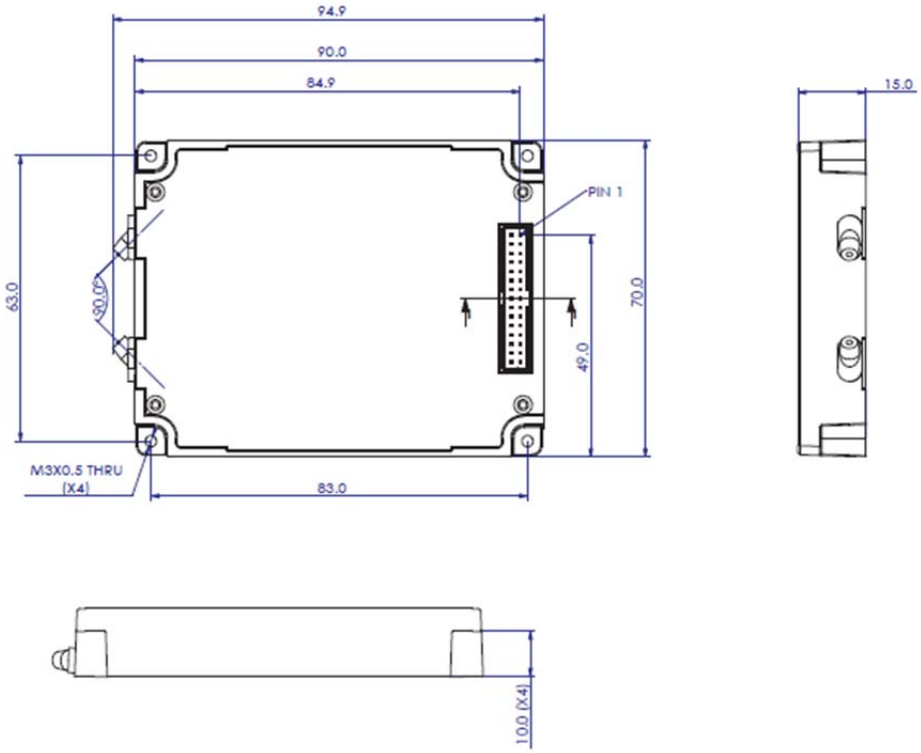
Connector type: Male, Samtec: ZLTMM-115-63-SM-D-330.

Pin	Function	Pin	Function
1	5V	2	5V
3	N/C	4	N/C
5	Ground	6	Ground
7	Serial Input RS232 (LVTTL)	8	Serial Output RS232 (LVTTL)
9	Ground	10	Ground
11	N/C	12	RESET Input (Active Low)
13	Pump Disable (Active High)	14	Output Power Mute Input (Active High)
15	Case Temperature Alarm (Active High)	16	Common Alarm (Active High)
17	N/C	18	Pump Bias Alarm (Active High)
19	Loss of Input Alarm (Active High)	20	Loss of output alarm/Mute Alarm (Active High)
21	N/C	22	N/C
23	N/C	24	N/C
25	Ground	26	Ground
27	N/C	28	N/C
29	5V	30	5V (If N/C then outputs 5V)

Control and Monitoring

Parameter	Specification
Communications	• RS232 Default baud rate 19200. • Protocol according to IEC 61291-6-1
Mode of Operation	• Automatic Gain Control (Default startup mode) • Automatic Power Control • Manual pump power
Monitoring Functions	• Output Power Monitoring • Input Power Monitoring • LD and PCB Temperatures

Mechanical Drawing



Environmental and Qualification

Parameter	Value/Range
Operating Case Temperature	0°C to +70 °C
Operating Humidity	5 to 85%
Storage Temperature	-40°C to +85°C
Storage Humidity	5 to 95%
Qualification	Telcordia GR1312
Laser safety	Class 1M*

* Class 1M products are not hazardous under normal circumstances, but may pose an eye hazard when the laser output is viewed with certain optical instruments (for example eye loupes, magnifiers and microscopes) within a distance of 100 mm