

Product Bulletin



MAFA1000 Series Erbium Doped Fiber Amplifier Module

The JDS Uniphase MAFA1000 Series Erbium Doped Fiber Amplifier Module is an ideal building block for OEM system integrators. It is designed to meet the most demanding noise performance requirements, such as CATV applications. The underlying technologies have been proven by years of field deployment globally.

The MAFA1000 performs all the functions of an erbium doped fiber amplifier (EDFA) ready for system integration. This includes the detection and amplification of the optical input signal, maintenance of constant output power level, and the monitoring and associated alarms for all vital characteristics of the pump lasers and the EDFA module. It requires only a single +5V power supply (dual supply version also available).

An optional eye safety feature allows the automatic shutdown of the EDFA when the output connector is not properly terminated.

The MAFA1000 utilizes JDS Uniphase's highly reliable pump lasers, both at 980 nm and 1480 nm. A wide range of power levels is available in the same compact module with an industry-standard footprint, including +24 dBm, which is the highest power in its class.

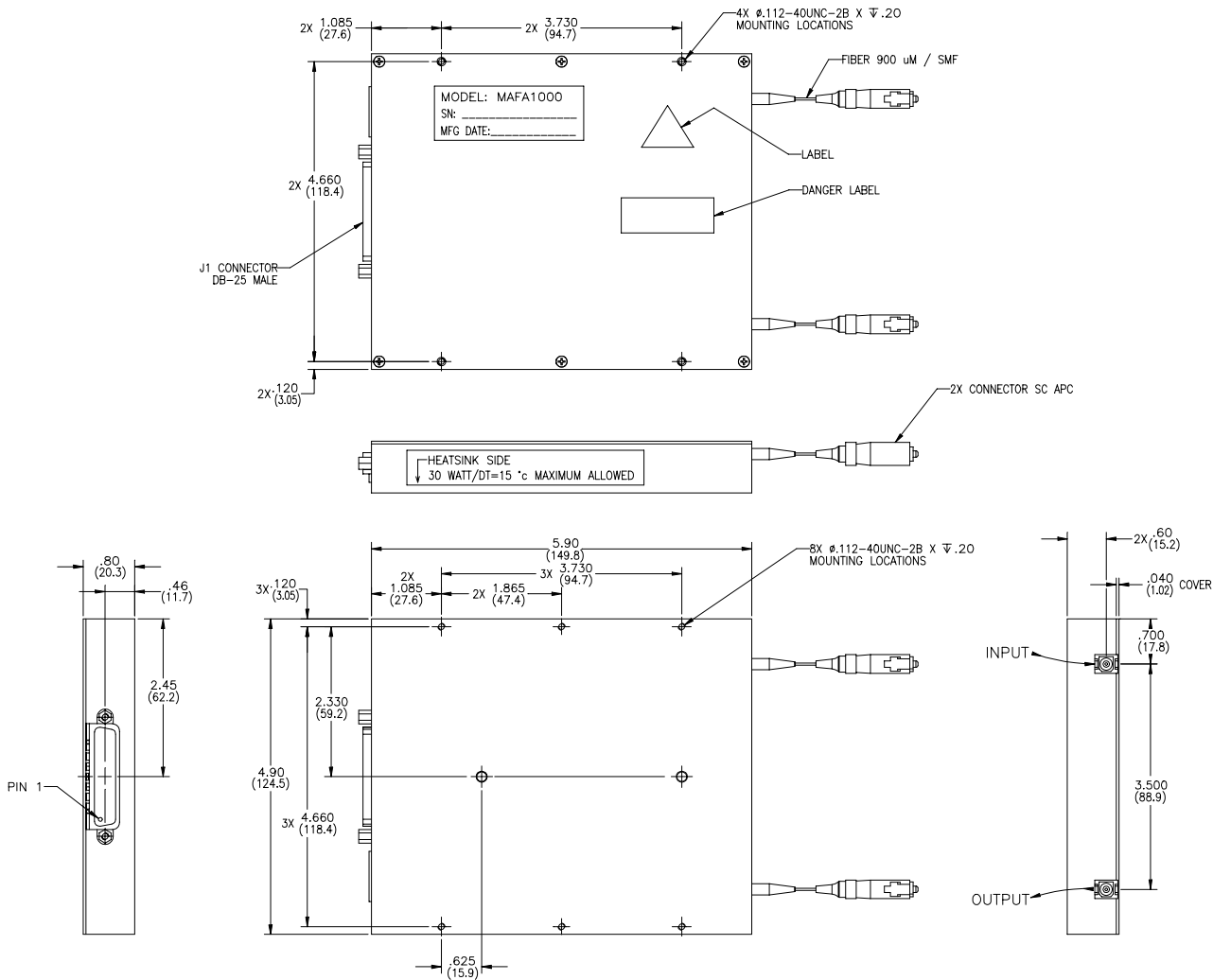
Key Features

- Full function erbium doped fiber amplifier
- CATV-field-proven low noise figure
- +13 to +24 dBm output in same compact footprint
- Single +5V supply (dual supplies optional)
- Wide operating temperature range: 0°C to 65°C
- Optional unterminated output shutdown for eye safety
- Module performance monitors and alarms
- Standard RS-232 communications

Applications

- HFC/CATV Networks
 - Power booster
 - Line Amplifier
 - Supertrunking
 - Distribution
- SONET/SDH systems
- LANs and MANs

Option 1



PIN ASSIGNMENT

Pin	Description	Pin	Description
1	+5V Input	14	GND
2	+5V Input	15	GND
3	+5V Input	16	GND
4	+5V Input	17	GND
5	-5V Input	18	RS-232 OUT (TTL)
6	-5V Input	19	Loss of Input Power Alarm*
7	EDFA Temperature Alarm*	20	Reserved
8	Loss of Output Power Alarm*	21	Amplifier Disable Input
9	Pump Bias Alarm*	22	RS-232 IN (TTL)
10	Pump Temperature Alarm*	23	Reserved
11	Reserved	24	+5 V Input
12	+5V Input	25	GND
13	GND		

* Alarms are all active TTL high.

ELECTRICAL/ OPTICAL SPECIFICATIONS

PROPERTY	SYMBOL	SPEC LIMIT	MODELS					COMMENT
Product Code			MAFA1013	MAFA1016	MAFA1019	MAFA1022	MAFA1024	
PERFORMANCE (note 1)								
Input Power (Operation)	Pin° (dBm)	Max	+12	+12	+12	+12	+12	
Input Power (Operation)	Pin° (dBm)	Min	-10	-10	-10	-10	-10	
Input Power (Rated Output)	Pin ^r (dBm)	Min	0	0	0	4	4	
Output Power "Preset Level"	(dBm)	Min	13.3	16.3	19.3	22.0 +/- .25	24.0 +/- .35	Nominal
Output Power Stability	(dB)		± 0.5	± 0.5	± 0.5	± 0.5	± 0.5	Note 2
Noise Figure	NF (dB)	Max	4.5	4.5	4.7	5.0	5.3	Pin=0 dBm
		Typ	4.0	4.0	4.2	4.5	4.8	Pin=0 dBm
		Max	5.5	5.5	5.7	6.0	6.3	Pin=+6 dBm
		Typ	4.5	4.5	4.7	5.0	5.3	Pin=+6 dBm
Power Consumption max	Psys		7W	8W	15W	20W	30W	

Notes:

(1) Unless stated otherwise all specifications apply over full temperature range.

(2) Over temperature, polarization, and wavelength.

(3) For MAFA1022 and MAFA1024, Pin=4 dBm

GENERAL / MECHANICAL SPECIFICATIONS

PROPERTY	REQUIREMENT	COMMENTS
Operating Wavelength	1530 ~ 1560 nm	
Operating Temperature	0°C to 65°C	Case temperature; additional heatsink may be required
Storage Temperature	-40°C to 85°C	
Operating Humidity	20% to 85%	Non-condensing
Supply Range	Single + 5V or Dual +/- 5V	
Enclosure	4.9" x 5.9" x 0.8"	
Fiber Type	SMF-28 with 900um tight buffer	1 meter length

Ordering information

Indicate your requirements by selecting one option from each configuration table. For more information on this or other products and their availability, please contact your local JDS Uniphase sales representative or JDS Uniphase directly at 215 822-5170, or by fax 215 822-6306, or via email at sales.pa@us.jdsunph.com, or visit our Web site at www.jdsunph.com.

Sample: MAFA 1013-SC-VS5-DS0

MAFA10AA-BB-CCC-DDD

A	Power level	B	Connector	C	Power supply	D	Eye safety shutdown
13	13 dBm	SC	SC/APC (8 degree connector, default option)	VS5	Single +5V (default)	DS0	No shutdown feature (default)
16	16 dBm	FC	FC/APC (8 degree connector)	VD5	Dual (+/-)5V	ES1	Shutdown feature included
19	19 dBm	EC	E2000/APC diamond				
22	22 dBm	TC	SC/UPC (flat polished ultralow back reflection)				
24	24 dBm	GC	FC/UPC (flat polished ultralow back reflection)				
		ZC	E2000/APC Suhner				



JDS Uniphase Corporation
500 Horizon Drive, Suite 502
Chalfont, PA
18914 USA

Tel 215 822-5170
Fax 215 822-6306
sales.pa@us.jdsunph.com
www.jdsunph.com

All information contained herein is believed to be accurate and is subject to change without notice. No responsibility is assumed for its use. JDS Uniphase Corporation, its subsidiaries and affiliates, or manufacturer, reserve the right to make changes, without notice, to product design, product components, and product manufacturing methods. Some specific combinations of options may not be available. Please contact JDS Uniphase for more information. ©JDS Uniphase Corporation. All rights reserved.
MAFA1000 Rev. A 12/99 Printed in USA