Measu-
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Devices

VIAVI

LASER COMPONENTS

MAP Erbium-Doped Fiber Amplifier

(mEDFA-A1)

The Multiple Application Platform (MAP) Erbium-Doped Fiber Amplifier (mEDFA-A1) is optimized for the industry-leading MAP-200 platform from Viavi Solutions. Based on the previous-generation MAP, the MAP-200 is the first photonic layer lab and manufacturing platform that is LAN Extensions for Instrumention (LXI)-compliant by conforming to the required physical attributes, Ethernet connectivity, and interchangeable virtual instrument (IVI) drivers.

The MAP-200 platform is optimized for density and maximum configurability to meet specific application requirements in the smallest possible foot print. The MAP EDFA has a saturated output power ranging from 14 dBm to 21 dBm, features noise figures as low as 3.7 dB and has gain flatness better than 2.0 dB. All MAP EDFA models are available for operation in C- or L-band.

Key Features

- Pre-amp, booster and in-line configurations
- High output power and gain maximize operating range
- Low noise figure minimizes optical impairment
- Monitoring and alarms available
- Can be automated when used with MAP-200 LXI-compliant interfaces and IVI drivers

Applications

- In-line, pre-amp and booster amplifier emulation
- Dense wavelength division multiplexing (DWDM) transmission for multi-channel applications
- SONET/SDH systems for single-channel applications
- Optical signal-to-noise ratio (OSNR) experiments

Safety Information

- The MAP EDFA, when installed in a MAP chassis, complies to CE, CSA/UL/IEC61010-1, LXI Class C requirements, meets the requirements of Class 3B in standard IEC 60825-1 (2002), and complies with 21 CFR 1040.1 except deviations per Laser Notice No. 50, July 2001.

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Specifications

Parameter	1550	1552	1552	1554	1558	1590	1592	1594
Amplifier type	Pre-amp	Booster	Booster high power	In-line	Booster DWDM	Pre-amp	Booster	In-line
Operating wavelength range	1528 to 1565 nm	1528 to 1565 nm	1528 to 1565 nm	1528 to 1565 nm	1528 to 1563 nm	1565 to 1610 nm	1565 to 1610 nm	1565 to 1610 nm
Input signal	Single channel	Single channel	Single channel	Single channel	Multichannel (DWDM)	Single channel	Single channel	Single channel
Saturated output power (minimum)[1]	>14 dBm	>17 dBm	>20 dBm	>17 dBm	>21 dBm	>15 dBm	>15 dBm	>20 dBm
Noise figure (maximum)[2]	<3.7 dB	<4.5 dB	<5.0 dB	<4.1 dB	<5.5 dB	<5.2 dB	<5.5 dB	<5.5 dB
Small signal gain (minimum)[3]	>37 dB	>30 dB	>32 dB	>35 dB	>25 dB	>24 dB	>22 dB	>28 dB
Input/output monitors	No	Yes	Yes	No	Yes	No	Yes	Yes
Polarization dependent loss (PDL) (maximum)	<0.2 dB	<0.2 dB	<0.2 dB	<0.2 dB	<0.25 dB	<0.3 dB	<0.3 dB	<0.3 dB
Polarization mode dispersion (PMD) (maximum)	<0.5 ps	<0.4 ps	<0.4 ps	<0.5 ps	<0.65 ps	<0.6 ps	<0.6 ps	<0.6 ps
Input/output isolation (typical)	N/A/32 dB	45/32 dB	45/32 dB	32/32 dB	32/32 dB	N/A/40 dB	40/40 dB	40/40 dB
Spectral gain flatness (maximum) (p-p)[4]	N/A	N/A	N/A	N/A	<2.0 dB	N/A	N/A	N/A
Operating temperature	0 to 40°C							
Storage temperature	–30 to 60°C							
Humidity	Maximum 95% RH non-condensing from 0 to 45°C							
Dimensions (W x H x D)	4.06 x 13.26 x 37.03 cm (1.6 x 5.22 x 14.58 in)							
Weight	1.3 kg (2.87 lb)							

Note: All specifications guaranteed at 1550 nm and at 23°C

1. Saturated Output Power measured:
   - at 1550 nm at P_{in} = –4 dBm
   - at 1550 nm at P_{in} = –4 dBm (mid-span) for models 1550, 1552, 1554, 1558
   - at 1590 nm at P_{in} = 0 dBm (mid-span) for models 1590, 1592, 1594
2. Noise figure measured:
   - at Pin = –30 dBm for model 1550
   - at Pin = –4 dBm for models 1552, 1558, 1592
   - at Pin = –20 dBm for models 1554, 1590, 1594
3. Small signal gain measured:
   - at Pin = –30 dBm for model 1550
   - at Pin = –20 dBm for model 1552, 1554, 1590, 1592, 1594
   - at Pin = –4 dBm for model 1558
4. Flatness optimized:
   - for Pin = –4 dBm for model 1558

Note: 1558 Input Power Monitor: Min Power displayed typical - 18 dBm and Max Power displayed typical +3 dBm

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Ordering Information

For more information on this or other products and their availability, please contact your local Viavi account manager at +1 844 468 4284 or via e-mail at customer.service@viavisolutions.com.

Description	Product Code
Base Options (Required, select one)	
14 dBm C-band, Single Channel, Pre-amp	MEDFA-A15500
17 dBm C-band, Single Channel, Booster	MEDFA-A15520
20 dBm C-band, Single Channel, Booster	MEDFA-A15522
17 dBm C-band, Single Channel, In-Line Booster	MEDFA-A15540
21 dBm C-band, DWDM, Booster	MEDFA-A15580
15 dBm L-band, Single Channel, Pre-amp	MEDFA-A15900
15 dBm L-band, Single Channel, Booster	MEDFA-A15920
20 dBm L-band, Single Channel, In-Line Booster	MEDFA-A15940
Connector Options (Required, select one)	
FC/PC connector type	MFP
FC/APC connector type	MFA

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