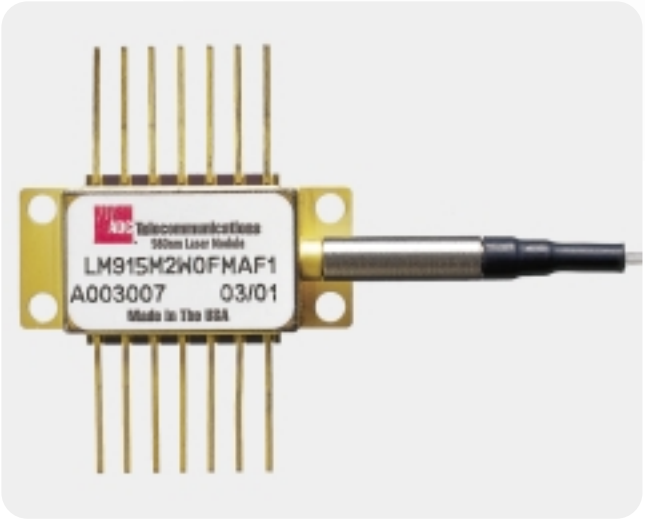
Multimode 980 nm Laser Module

Broad Area

Preliminary



Features:

- Over 1.5 watts of optical power from a 105 µm fiber
- High optical power ideal for optically pumping double clad fiber amplifiers and fiber lasers
- Unique patent-pending Epitaxial Mirror on Facet (EMOF) technology eliminates Catastrophic Optical Mirror Damage (COMD) at the facet
- Vertically integrated laser diode and module manufacturing facility ensures reproducible and consistent laser process
- Molecular Beam Epitaxy (MBE) grown laser structure optimizes spectral performance
- Fully Bellcore GR-468-CORE and BR-1312-CORE compliant

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Operating Specifications

LASER MODULE

Optical Power:	1.5 W typical
Threshold Current:	150 mW maximum
Operating Current:	3 A typical
Operating Voltage:	1.5 V typical
Center Wavelength:	λ ±5 nm
Wavelength Width for 95% Total Power:	5 nm maximum
TEC Current:	1.2 A typical
Total Power Consumption:	1.4 W typical

MONITOR PHOTODIODE

Photocurrent:	200 µA to 2500 µA
Dark Current:	100 nA maximum
Responsivity:	1 µA/mW to 25 µA/mW

Absolute Maximum Rating Specifications

ENVIRONMENTAL

Storage Temperature:	-40°C to 85°C
Operating Temperature:	-20°C to 85°C
Lead Solder Temperature:	260°C
Laser Operating Temperature:	20°C to 30°C
Lead Solder Time:	10 Sec

LASER MODULE

Forward Current:	5 A
Reverse Voltage:	2 V
Reverse Current:	2.5 mA

MONITOR PHOTODIODE

Current:	4 mA
Reverse Voltage:	150 V

FIBER TAIL ASSEMBLY

Fiber Temperature:	-40°C to 85°C
Fiber Pull Force:	5 N
Bend Radius:	16 mm

THERMOELECTRIC COOLER

Current:	1.5 A
Voltage:	3.5 V
Power Consumption:	4.8 W

THERMISTOR

Current:	2 mA
Voltage:	5 V
Resistance ($L_{(Kink)}$) 25°C Submount:	9.5 kΩ to 10.2 kΩ, 10 kΩ typical

Notes:

1) All figures are based on start of life (S.O.L.) unless otherwise stated.

2) Temperature of submount 25°C, temperature of case 70°C unless otherwise stated.

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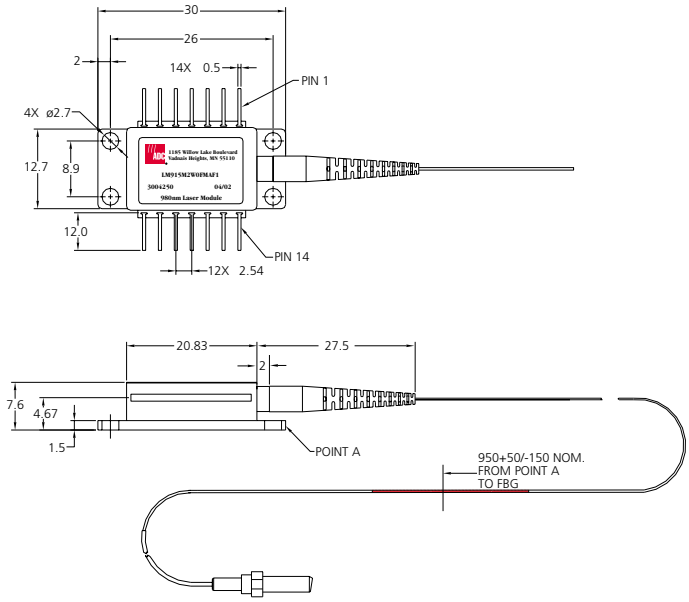


Fully Floating 980 nm Laser Module

Lead Number and Function

1) Thermoelectric Cooler (+)
2) Thermistor
3) Photo Diode Anode
4) Photo Diode Cathode
5) Thermistor
6) NC
7) NC
8) NC
9) NC
10) Laser Anode, ESD Protection
11) Laser Cathode, ESD Protection
12) NC
13) Case Ground
14) Thermoelectric Cooler (-)

Fiber Specifications

Fiber Core Diameter:	105 µm typical
Fiber Cladding Diameter:	125 µm typical
Buffer Cladding Diameter:	250 µm typical
Fiber Length:	1 meter typical

Catalog Number

LM ____ **M** ____ **FMAF1CS203**

Wavelength

915	λ = 915 nm
980	λ = 980 nm

Output Power

1W0	1.0 W
1W5	1.5 W
2W0	2.0 W

Note:
Product comes standard with multimode; 250 µm fiber with angled ferrule.
Other wavelengths and a variety of connector options are available.
Contact customer service for more information.

Multimode 980 nm Laser Module
Safety and Operation

The laser light emitted from this laser module is invisible and may be harmful to the human eye. Avoid looking directly into the fiber when the device is in operation.

CAUTION: THE USE OF OPTICAL INSTRUMENTS WITH THIS PRODUCT WILL INCREASE EYE HAZARD

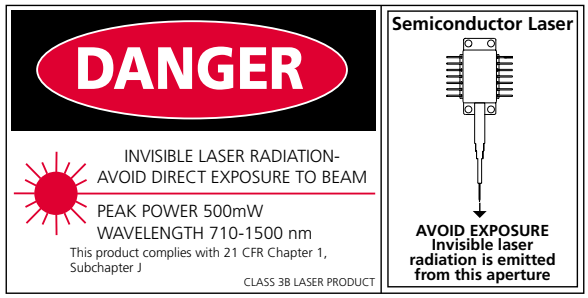
Operating the laser module outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the laser module must be operated in such a way that the maximum peak optical power cannot be exceeded. These laser modules may be damaged by excessive drive current or switching transients. When using power supplies, the laser module should be connected with the main power on and the output voltage at zero. The current should be slowly increased while monitoring the laser module output power and the drive current.

ESD

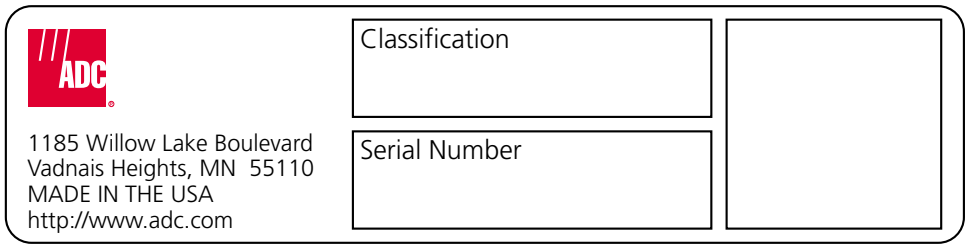
Electro-static discharge is the primary cause of unexpected laser diode failure. Take appropriate precautions to prevent ESD damage. Use wrist straps, grounded work surfaces, and rigorous anti-static techniques when handling laser modules.

21 CFR 1040.10 Compliance

Due to the small size of these modules, each label shown is attached to the individual shipping container. These are illustrated here to comply with 21 CFR 1040.10 as applicable under the Radiation Control Health and Safety Act of 1968.



Output Power and Laser Emission Indicator



Serial Number Identification Label

Web Site: www.adc.com

From North America, Call Toll Free: 1-800-366-3891, Ext. 73475 • Outside of North America: +1-952-938-8080 Fax: +1-952-917-3237

For a complete listing of ADC's global sales office locations, please refer to our web site.

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