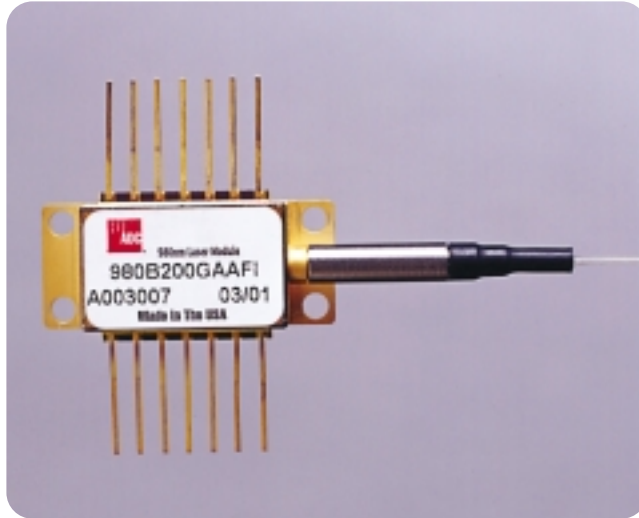


980 nm Laser Module

Fiber Bragg Grating Stabilized



Features:

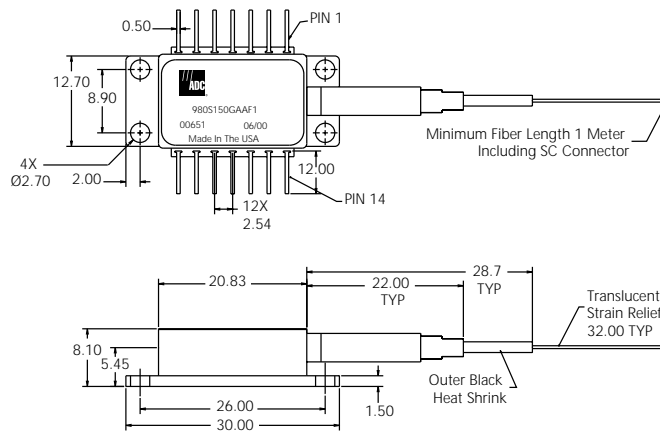
- Fiber Bragg Grating wavelength stabilization
- Unique patent-pending Epitaxial Mirror On Facet (EMOF) technology eliminates Catastrophic Optical Mirror Damage (COMD) at the facet
- Vertically integrated laser diode and module manufacturing facility ensures reproducible and consistent laser process
- Molecular Beam Epitaxy (MBE) grown laser structure optimizes spectral performance
- High-power operation
- Robust optical train
- Fully Bellcore GR-468-CORE and GR-1312-CORE compliant
- High-power 14-lead "butterfly" laser module designed to exceed the reliability demands of EDFA applications in telecommunications



980 nm Laser Module

Fiber Bragg Grating Stabilized

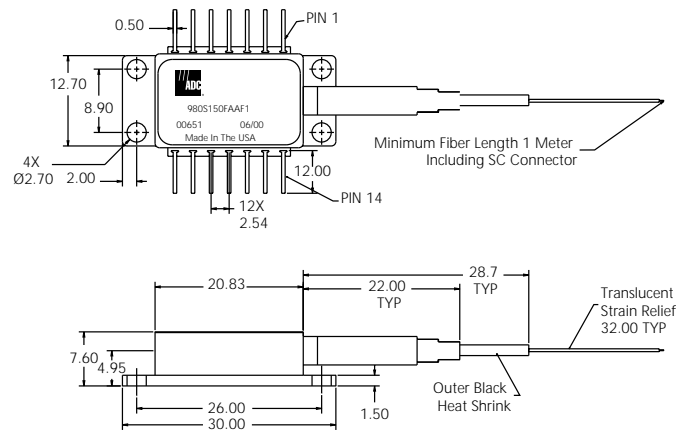
5/01 • 100366PR 980 nm Laser Module BGS



Standard 980 nm Laser Module

Lead Number and Function

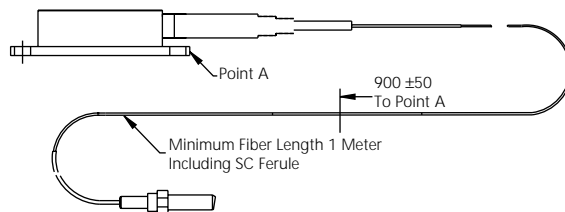
- 1) Thermoelectric Cooler (+)
- 2) Thermistor
- 3) Photo Diode Anode
- 4) Photo Diode Cathode
- 5) Thermistor, Case Ground
- 6) NC
- 7) NC
- 8) NC
- 9) NC
- 10) Laser Anode, Case Ground, ESD Protection
- 11) Laser Cathode, ESD Protection
- 12) NC
- 13) Case Ground
- 14) Thermoelectric Cooler (-)



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 (-)





980 nm Laser Module

Fiber Bragg Grating Stabilized

Operating Specifications

LASER MODULE

Threshold Current:	15 mA typical, 25 mA maximum
Forward Voltage at ($L_{(Kink)}$):	1.8 V typical, 2.5 V maximum
Kink Current	
$L_{(Kink)} = 110$ mW:	185 mA typical, 225 mA maximum
$L_{(Kink)} = 120$ mW:	200 mA typical, 245 mA maximum
$L_{(Kink)} = 130$ mW:	215 mA typical, 260 mA maximum
$L_{(Kink)} = 140$ mW:	230 mA typical, 280 mA maximum
$L_{(Kink)} = 150$ mW:	250 mA typical, 300 mA maximum
$L_{(Kink)} = 160$ mW:	265 mA typical, 320 mA maximum
$L_{(Kink)} = 170$ mW:	280 mA typical, 335 mA maximum
$L_{(Kink)} = 180$ mW:	295 mA typical, 355 mA maximum
$L_{(Kink)} = 190$ mW:	310 mA typical, 375 mA maximum
$L_{(Kink)} = 200$ mW:	322 mA typical, 390 mA maximum
Center Wavelength (Peak at $L_{(Kink)}$):	$\lambda \pm 1$ nm
Laser Diode Operating Temperature:	20°C to 30°C
Total Power Consumption:	6 W
Hermeticity:	5×10^{-7} Atm cc/s minimum
Internal Moisture:	5000 ppm maximum
FWHM ($\Delta\lambda @ L_{(Kink)}$)	1 nm maximum

MONITOR PHOTODIODE

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

Fiber Output Power:	250 mW
Forward Current:	460 mA
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

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980 nm Laser Module

Fiber Bragg Grating Stabilized

Absolute Maximum Rating Specifications (Continued)

THERMOELECTRIC COOLER

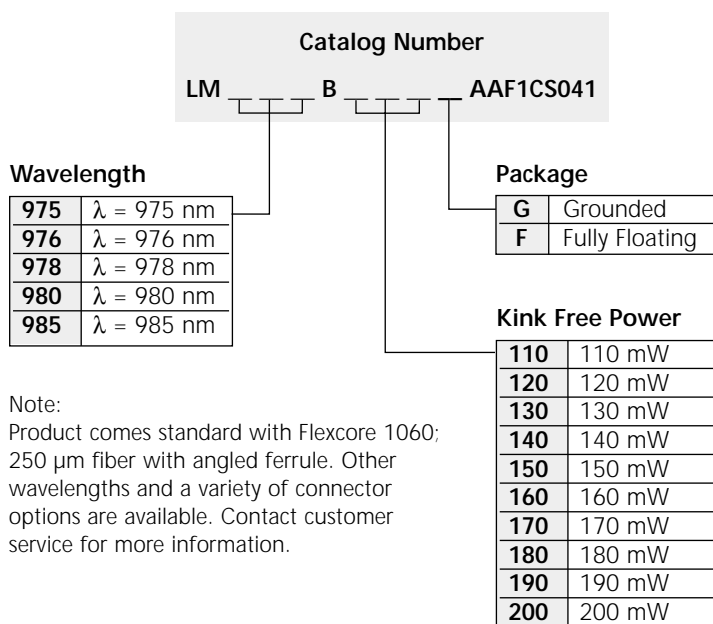
Current:	1.5 A
Voltage:	3.5 V
Power Consumption:	4.8 W

THERMISTOR

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

Notes:

- 1) Kink power is defined as the power corresponding to a current where the kink signal is greater than 0.20 mW. Kink signal is defined as the difference between the binomial coefficient weighted global and local average of a LI curve measured from the fiber.
- 2) All figures are based on start of life (S.O.L.) unless otherwise stated.
- 3) Temperature of submount 25°C, temperature of case 70°C unless otherwise stated.
- 4) $L_{(Kink)}$ – Kink free rated power of laser module.



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