

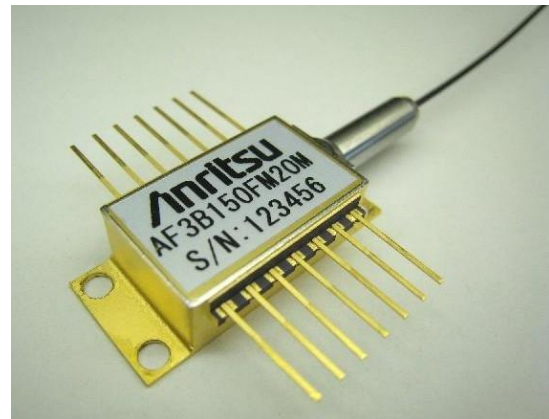
1.3 μ m LD Module AF3B150FM20M

Optical Output Power 500mW

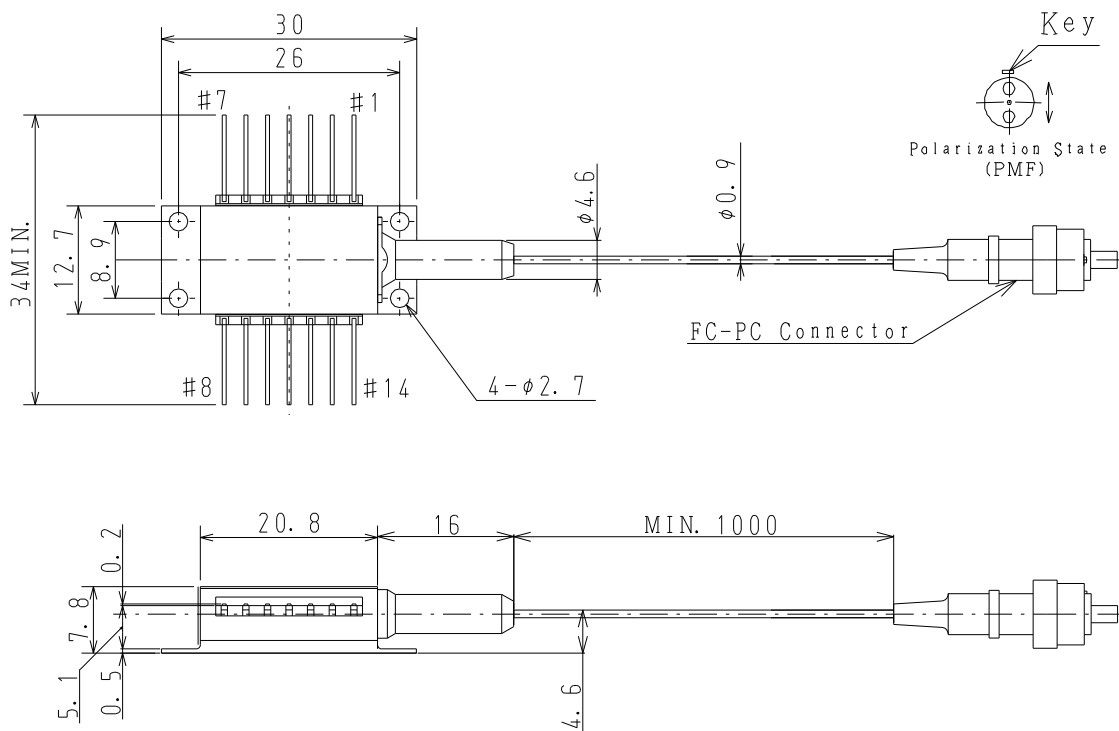
The AF3B150FM20M is 1.3 μ m laser diode module designed for optical measurement and communication. The laser is packaged in a 14-pin standard butterfly package with optical isolator, monitor photodiode and thermo-electric cooler (TEC).

FEATURES

- ◆ Optical output : 500mW ($I_F \leq 1800\text{mA}$)
- ◆ Wavelength : $1320 \pm 20\text{nm}$
- ◆ Fiber : Flame-retardant PMF ($\phi 0.9\text{mm}$)
- ◆ FC-PC connector
- ◆ 14-pin butterfly package
- ◆ Built-in optical isolator
- ◆ Internal monitor PD and TEC
- ◆ Low power consumption



DIMENSIONS

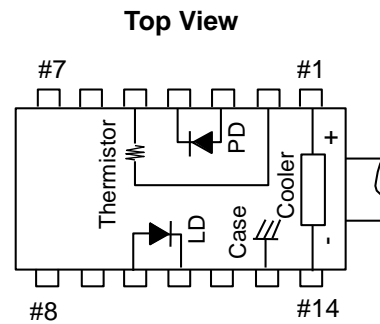


(Unit: mm)

Note: Polarization state of LD is aligned parallel to the slow axis.

■ PIN CONFIGURATION

| No. | FUNCTION | No. | FUNCTION |
|-----|--------------|-----|----------------|
| 1 | Cooler anode | 8 | NC |
| 2 | Thermistor | 9 | NC |
| 3 | PD anode | 10 | LD anode |
| 4 | PD cathode | 11 | LD cathode |
| 5 | Thermistor | 12 | NC |
| 6 | NC | 13 | Case |
| 7 | NC | 14 | Cooler cathode |



■ ABSOLUTE MAXIMUM RATINGS

※ Excess over the absolute maximum ratings may lead to damage.

| Item | Symbol | Rating | unit |
|----------------------------|--------|------------|------|
| LD Forward Current | IF | 2200 | mA |
| LD Reverse Voltage | VR | 2 | V |
| Forward Current | IFD | 10 | mA |
| PD Reverse Voltage | VRD | 20 | V |
| Operating Case Temperature | TC | -20 to +70 | °C |
| Storage Temperature | Tstg | -40 to +85 | °C |
| Cooler Current | IC | 5.8 | A |

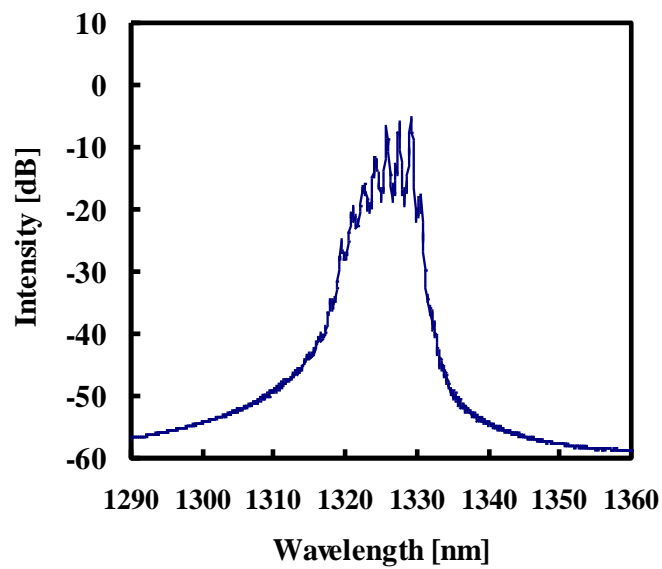
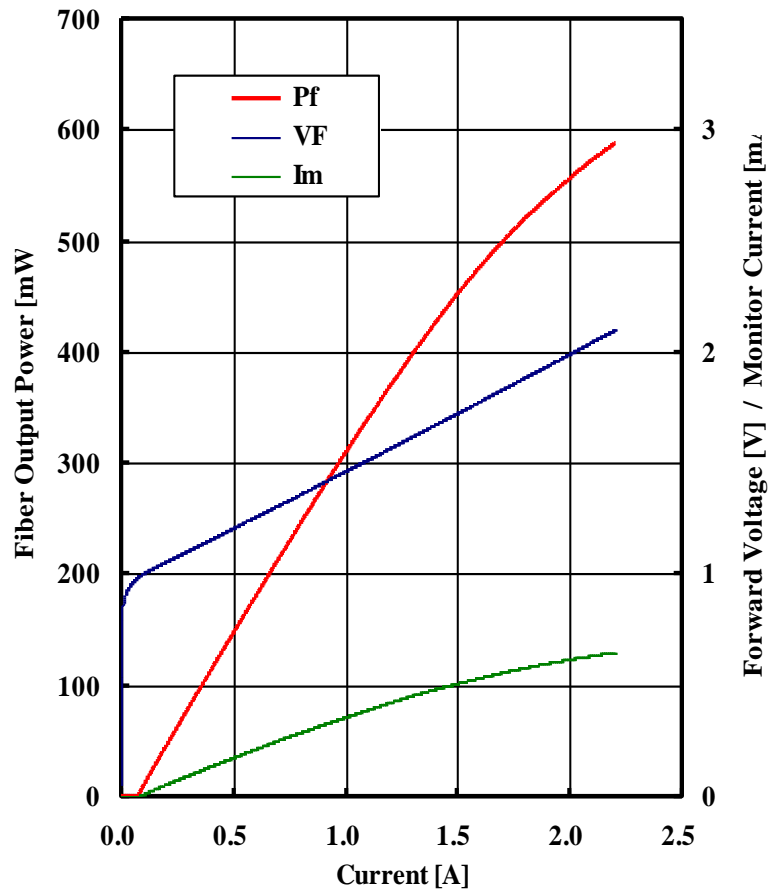
■ OPTICAL AND ELECTRICAL CHARACTERISTICS (TLD=25deg.C, TC=25deg.C)

| Item | Symbol | Test condition | Min. | Typ. | Max. | Unit |
|-----------------------|------------------|---------------------------------------|------|------|------|------------|
| Output Power | Pf | | | | 500 | mW |
| Forward Voltage | VF | Pf = 500mW | | | 2.3 | V |
| Threshold Current | Ith | | | | 180 | mA |
| Forward Current (BOL) | IF | Pf = 500mW | | | 1800 | mA |
| Center Wavelength | λ_c | Pf = 500mW, RMS(-20dB) | 1300 | 1320 | 1340 | nm |
| Spectral Width | $\Delta \lambda$ | Pf = 500mW, RMS(-20dB) | | 5 | 10 | nm |
| Monitor Current | Im | Pf = 500mW, VRD = 5V | 100 | | 2000 | μ A |
| PD Dark Current | Id | VRD = 5V | | | 0.1 | μ A |
| Tracking Error | Δ PF | Im = const, TC = -20 to 70deg.C | | | 0.5 | dB |
| Cooler Voltage | VC | IF = EOL* ¹ , TC = 70deg.C | | | 4.0 | V |
| Cooler Current | IC | IF = EOL, TC = 70deg.C | | | 3.5 | A |
| Thermal Resistance | RTH | TLD = 25deg.C, B= 3900 \pm 100K | 9.5 | 10.0 | 10.5 | k Ω |
| Optical Isolation | Ro | TLD = 25deg.C | | 30 | | dB |
| Extinction Ratio | XP | Pf = 500mW | 17 | | | dB |

Note) *¹: EOL (End of life) = BOL (Begin of Life) x 1.2

■ TYPICAL CHARACTERISTICS

◆ Fiber output power / Monitor Current / Voltage-Forward current characteristics / Emission spectrum





CAUTION : Handle the fiber of the enclosed device(s) with extreme care ; glass fiber is subject to breakage if mishandled and permanent damage to the device may result. Do not pull the device by the fiber or protective sleeve.
Do not coil the fiber into a loop of than 30 mm in radius.

| | |
|---|--|
| <p>SEMICONDUCTOR LASER</p> | |
| <p>AVOID EXPOSURE Invisible laser radiation is emitted from this aperture</p> | <p>INVISIBLE LASER RADIATION AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION</p> |
| <p>Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure. This Product Complies with 21 CFR 1040.10 and 1040.11 Manufactured Anritsu Corp. 5-1-1 Onna, Atsugi-shi, Kanagawa, Japan</p> | <p>OUTPUT POWER 800mW WAVELENGTH 0.80 to 1.80 μm CLASS IV LASER PRODUCT</p> |

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