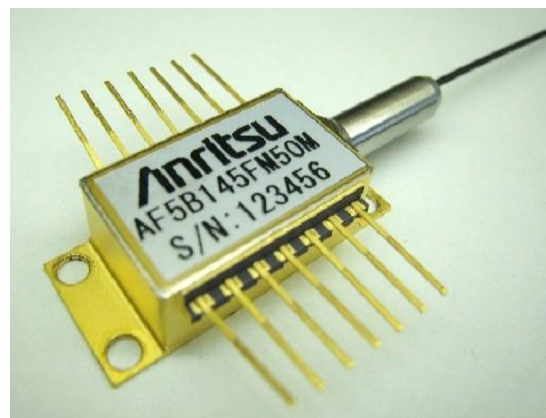


1.55μm LD Module *AF5B145FM50M*

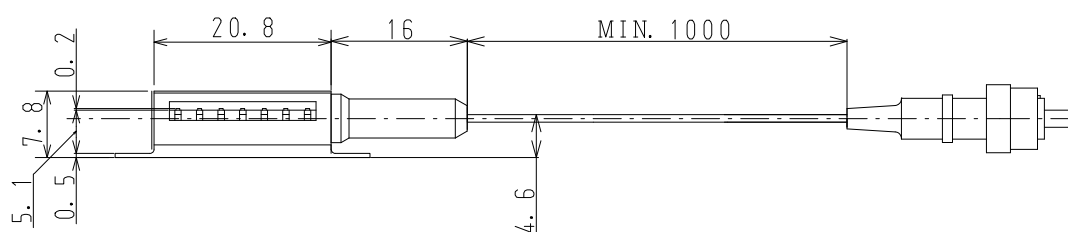
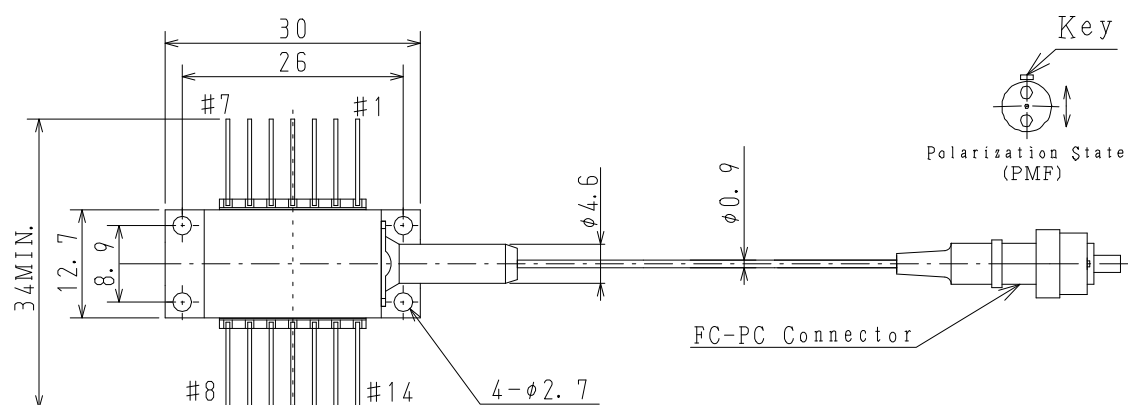
The AF5B145FM50M is 1.55μm laser diode module designed for optical measurement and communication. The laser is packaged in a 14-pin standard butterfly package with optical isolator, monitor photodiode and thermo-electric cooler (TEC).

FEATURES

- Optical output: 450mW ($I_F \leq 1800\text{mA}$)
- Wavelength: $1550 \pm 20\text{nm}$
- 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

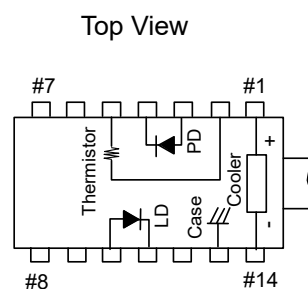


(Unit : mm)

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

Item	Symbol	Rating	unit
LD Forward Current	I_F	2200	mA
LD Reverse Voltage	V_R	2	V
PD Forward Current	I_{FD}	10	mA
PD Reverse Voltage	V_{RD}	20	V
Operating Case Temperature	T_C	-20 to +70	°C
Storage Temperature	T_{stg}	-40 to +85	°C
Cooler Current	I_C	5.8	A

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

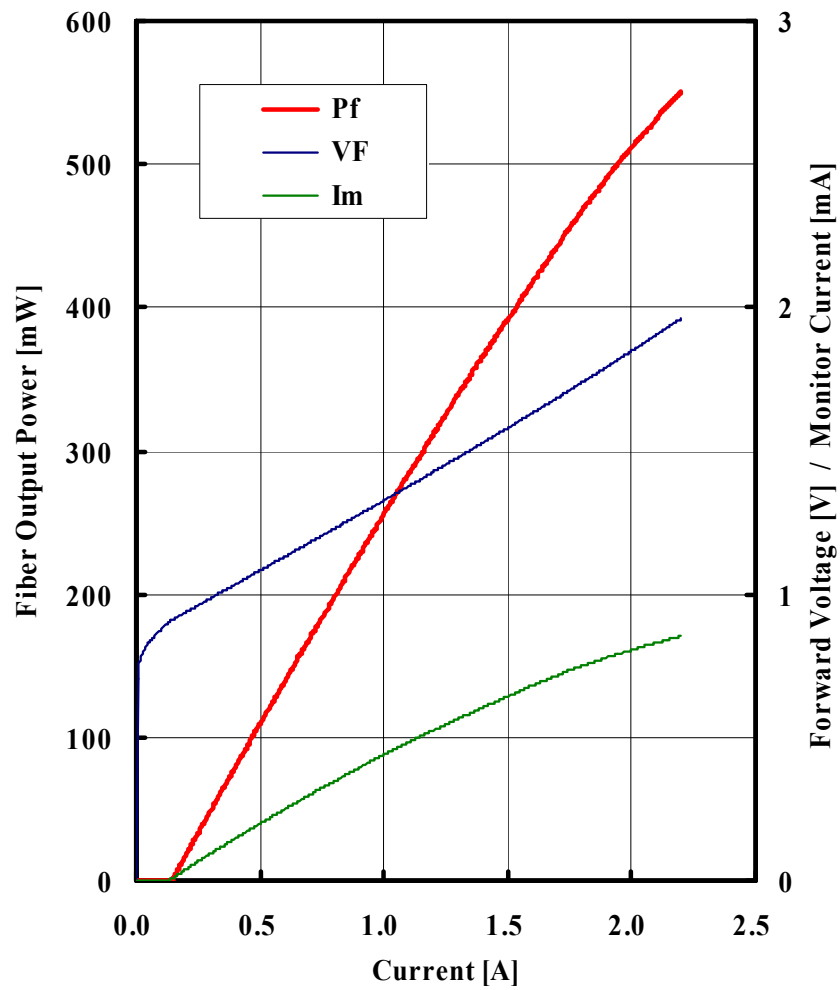
OPTICAL AND ELECTRICAL CHARACTERISTICS (T_{LD}=25°C, T_C=25°C)

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Output Power	P_f				450	mW
Forward Voltage	V_f	$P_f = 450\text{mW}$			2.2	V
Threshold Current	I_{th}				180	mA
Forward Current (BOL)	I_f	$P_f = 450\text{mW}$			1800	mA
Center Wavelength	λ_c	$P_f = 450\text{mW}$, RMS (-20dB)	1530	1550	1570	nm
Spectral Width	$\Delta\lambda$	$P_f = 450\text{mW}$, RMS (-20dB)		5	10	nm
Monitor Current	I_m	$P_f = 450\text{mW}$, $V_{RD} = 5\text{V}$	100		2000	μA
PD Dark Current	I_d	$V_{RD} = 5\text{V}$			0.1	μA
Tracking Error	ΔP_f	$I_m = \text{const}$, $T_C = -20 \text{ to } 70^\circ\text{C}$			0.5	dB
Cooler Voltage	V_C	$I_f = \text{EOL}^*$, $T_C = 70^\circ\text{C}$			4.0	V
Cooler Current	I_C	$I_f = \text{EOL}^*$, $T_C = 70^\circ\text{C}$			3.5	A
Thermal Resistance	R_{TH}	$T_{LD} = 25^\circ\text{C}$, $B = 3900 \pm 100\text{K}$	9.5	10.0	10.5	kΩ
Optical Isolation	R_o	$T_{LD} = 25^\circ\text{C}$		30		dB
Extinction Ratio	X_p	$P_f = 450\text{mW}$	17			dB

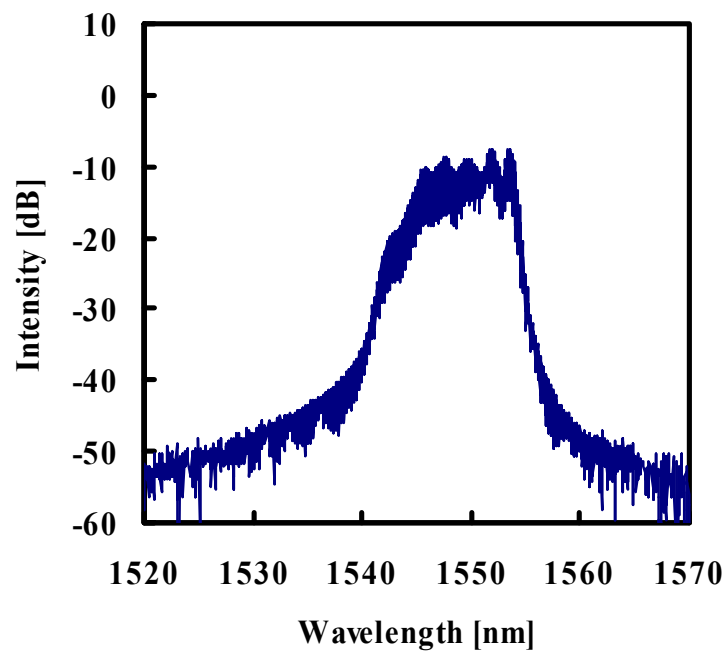
Note) *1 : EOL (End of life) = BOL (Begin of life) × 1.2

TYPICAL CHARACTERISTICS

Fiber output power / Monitor Current / Voltage-Forward current characteristics



Emission spectrum ($P_f = 450\text{mW}$)





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.

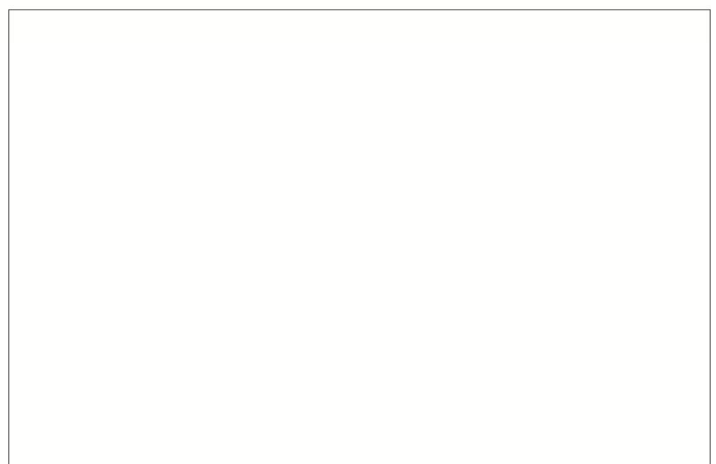
SEMICONDUCTOR LASER	
	<p>INVISIBLE LASER RADIATION AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION</p>
<p>AVOID EXPOSURE Invisible laser radiation is emitted from this aperture</p>	
<p>Caution - use of controls or adjustments or performance of procedures other than those specified herein 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>	

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