

# 1.48 $\mu$ m LD Module

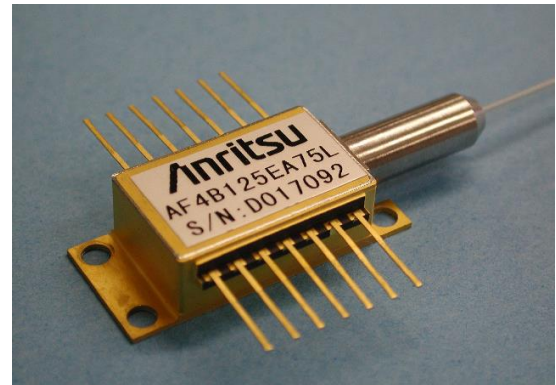
## AF4B SERIES type B

### Optical output power 200mW ~ 250mW

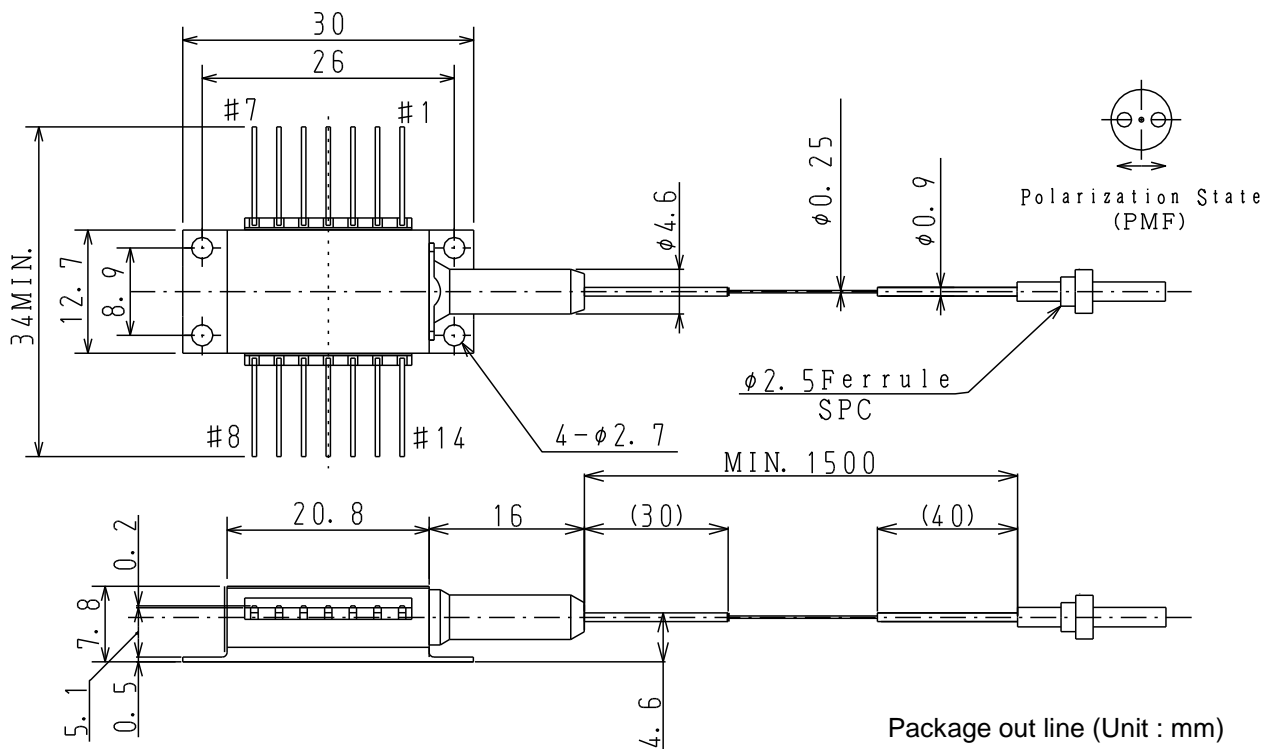
The AF4B SERIES type B is 1.48 $\mu$ m high power laser diode modules designed for Er doped fiber amplifier (EDFA). The laser is packaged in a 14-pin butterfly package with optical isolator, monitor photodiode and thermo-electric cooler (TEC).

#### FEATURES

- ◆ Optical output :
  - 200mW ( $I_F \leq 700$ mA) AF4B120EA75L / AF4B120ED75L
  - 220mW ( $I_F \leq 700$ mA) AF4B122EA75L / AF4B122ED75L
  - 250mW ( $I_F \leq 800$ mA) AF4B125EA75L / AF4B125ED75L
- ◆ Fiber
  - SMF output (UV coating fiber:  $\phi 0.25$ mm)
  - PMF output (UV coating fiber:  $\phi 0.25$ mm)
- ◆ 14pin butterfly package
- ◆ Built-in optical isolator
- ◆ Internal monitor PD and TEC
- ◆ Low power consumption



#### DIMENSIONS



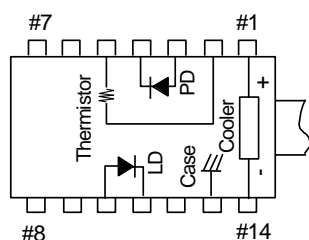
(Note) Polarization state of LD is aligned parallel to the slow axis.

## ■ ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Rating			Unit
		AF4B120EA75L AF4B120ED75L	AF4B122EA75L AF4B122ED75L	AF4B125EA75L AF4B125ED75L	
LD Forward Current	IF	1300			mA
LD Reverse Voltage	VR	2			V
PD Forward Current	IFD	10			mA
PD Reverse Voltage	VRD	20			V
Operating Case temperature	TC	-20 to +70			°C
Storage Temperature	T <sub>stg</sub>	-40 to +85			°C
Cooler Current	Ic	2			A

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

## ■ TOP VIEW



## ■ PIN CONFIGURATIONS

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

## ■ OPTICAL AND ELECTRICAL CHARACTERISTICS (T<sub>LD</sub>=25°C, T<sub>C</sub>=25°C)

Item	Symbol	Test condition		AF4B120EA75L AF4B120ED75L	AF4B122EA75L AF4B122ED75L	AF4B125EA75L AF4B125ED75L	Unit
Output power	Pf			200	220	250	mW
Forward Voltage	VF	at Rated Power	Max.	2			V
Threshold Current	I <sub>th</sub>		Typ.	70			mA
			Max.	150			
Forward Current (BOL)	IF	at Rated Power	Max.	700		800	mA
Center Wavelength	λ <sub>c</sub>	at Rated Power	Min.	1460			nm
			Typ.	1475			
			Max.	1490			
Spectral width	Δλ	at Rated Power RMS (-20dB)	Typ.	5			nm
			Max.	10			
Monitor Current	I <sub>m</sub>	at Rated Power VRD=5V	Min.	100			μA
			Typ.	—			
			Max.	1000			
PD Dark Current	I <sub>d</sub>	VRD=5V	Max.	0.1			μA
Tracking Error	ΔPf	I <sub>m</sub> =const, T <sub>c</sub> =-20~70°C	Max.	0.5			dB
Cooler Voltage	V <sub>c</sub>	IF=EOL* <sup>1</sup> , T <sub>c</sub> =70°C	Max.	3.1			V
Cooler Current	I <sub>c</sub>	IF=EOL, T <sub>c</sub> =70°C	Max.	1.3		1.5	A
Thermistor Resistance	R <sub>th</sub>	T <sub>LD</sub> =25°C B=3900±100K	Min.	9.5			kΩ
			Typ.	10			
			Max.	10.5			
Optical Isolation	R <sub>o</sub>	T <sub>LD</sub> =25°C	Typ.	30			dB
Extinction Ratio* <sup>2</sup>	X <sub>p</sub>	at Rated Power	Min.	17			dB

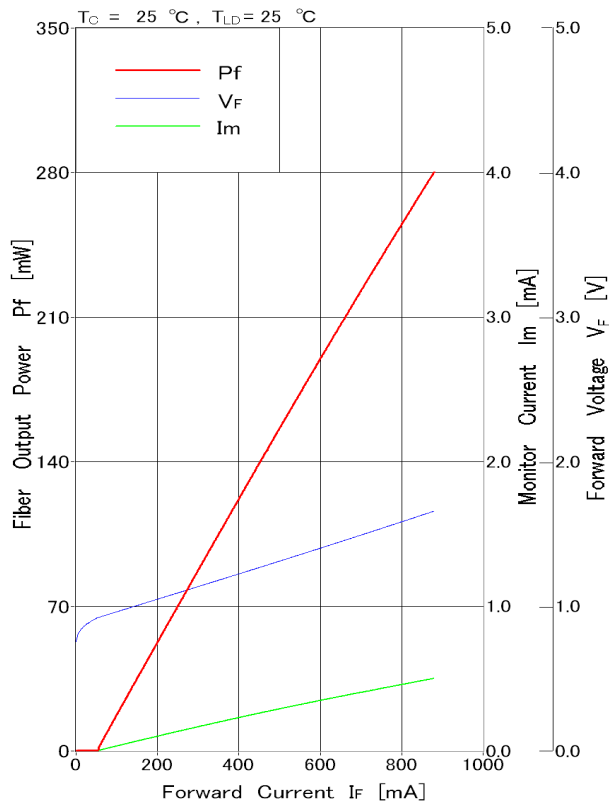
\*1 EOL (End of life) = BOL (begin of life) × 1.2

\*2 Specified for PMF

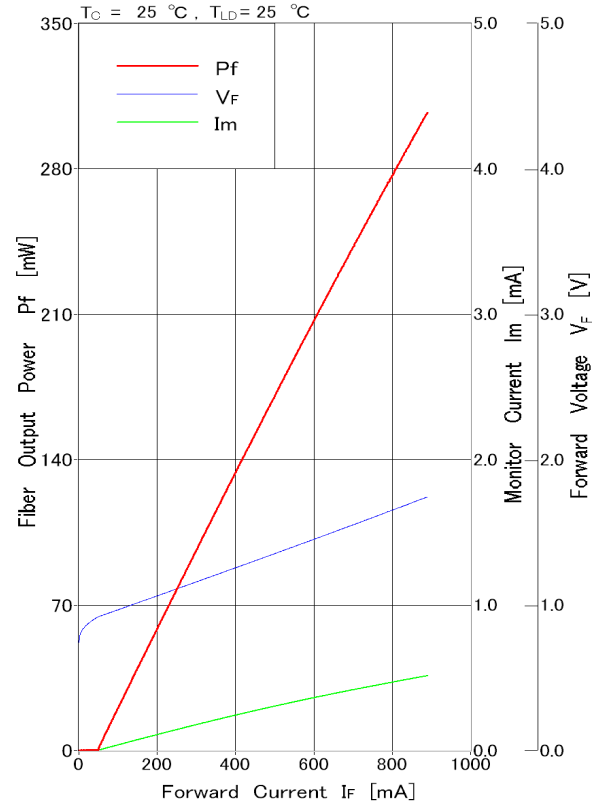
## ■ TYPICAL CHARACTERISTICS

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

【AF4B122EA75L】

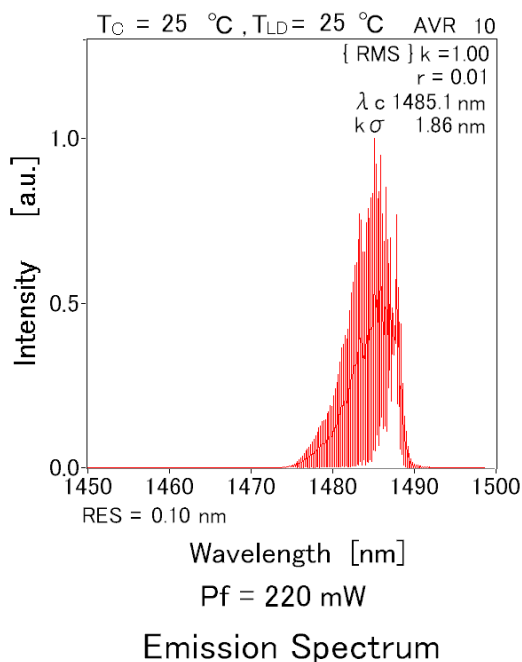


【AF4B125EA75L】

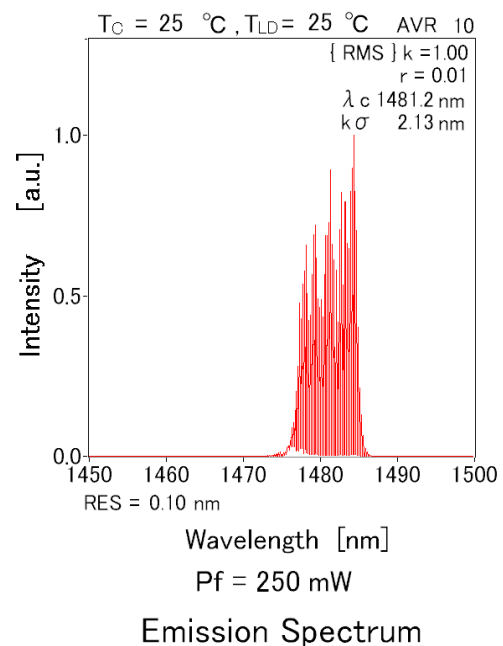


### ◆ EMISSION SPECTRUM

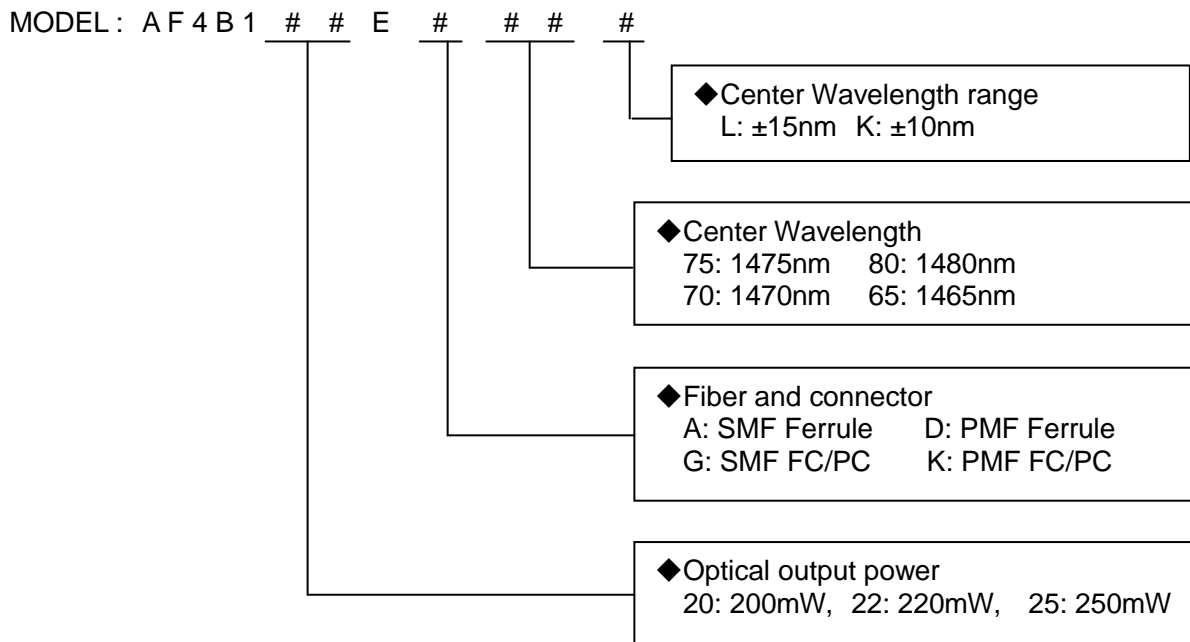
【AF4B122EA75L】



【AF4B125EA75L】



■ ORDERING INFORMATION





**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.

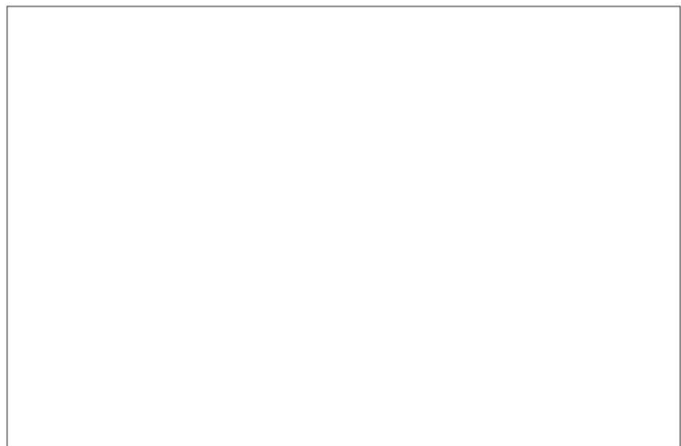
<p>SEMICONDUCTOR LASER</p>	<p>INVISIBLE LASER RADIATION AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION</p> <p>OUTPUT POWER 500mW WAVELENGTH 0.80 to 1.80 μm CLASS IIIb LASER PRODUCT</p>
<p><b>AVOID EXPOSURE</b> Invisible laser radiation is emitted from this aperture</p>	
<p>Caution - use 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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