

# 1.65μm DFB LD MODULE AB6B407BJ537F

The AB6B407BJ537F is 1.65μm InGaAsP/InP distributed feedback (DFB) laser diodes developed as a light source for methane sensing.

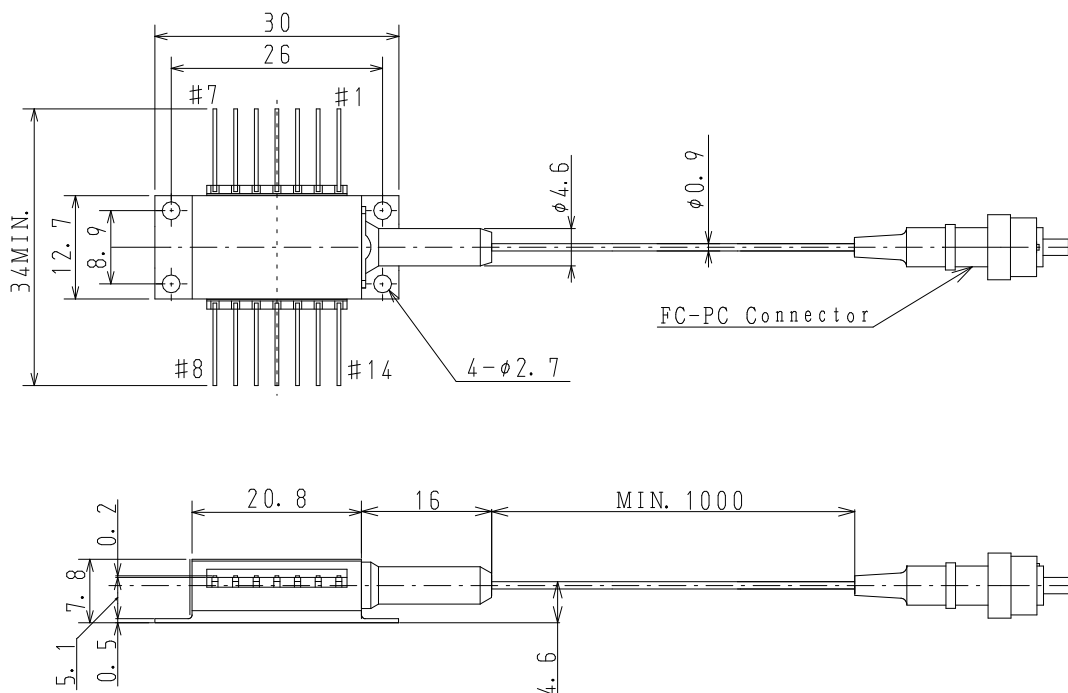
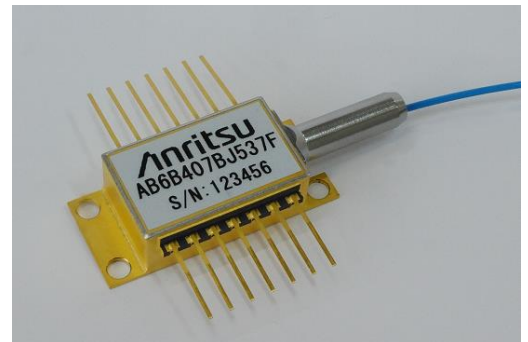
## ◆ FEATURES

- Optical output power : Typ.10 mW@100 mA
- Built-in optical isolator (30 dB)
- Internal monitor PD and TEC
- SMF pigtail type (Φ0.9 mm)

## ◆ APPLICATION

- Methane gas detection

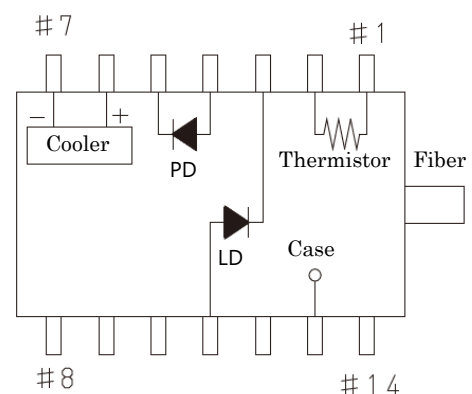
## ◆ DIMENSIONS (Unit : mm)



## ◆ PIN CONFIGURATIONS DIMENSIONS

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

## ◆ TOP VIEW



◆ ABSOLUTE MAXIMUM RATINGS ( $T_{LD}=25^{\circ}\text{C}$ )

Item	Symbol	Rating	Unit
LD Forward Current	$I_F$	150	mA
LD Reverse Voltage	$V_R$	2	V
PD Forward Current	$I_{FD}$	10	mA
PD Reverse Voltage	$V_{RD}$	10	V
Operating Case Temperature	$T_C$	-20 to +70	$^{\circ}\text{C}$
Storage Temperature *1	$T_{stg}$	-40 to +85	$^{\circ}\text{C}$
Cooler Current	$I_C$	2	A

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

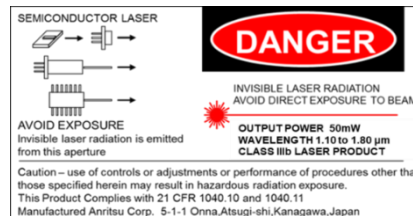
\*1 No condensation

◆ OPTICAL AND ELECTRICAL CHARACTERISTICS ( $T_{LD}=25^{\circ}\text{C}$ ,  $T_C=25^{\circ}\text{C}$ )

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	$I_F=100\text{mA}$			2.5	V
Threshold Current	$I_{th}$			10	25	mA
Optical Output Power	$P_f$	$I_F=100\text{mA}$	7	10		mW
Peak Wavelength	$\lambda_p$	$I_F=100\text{mA}$	1652.7	1653.7	1654.7	nm
Side Mode Suppression Ratio	SMSR	$I_F=100\text{mA}$	33	40		dB
Spectral Linewidth	$\Delta f$	$I_F=100\text{mA}$		3	15	MHz
PD Dark Current	$I_d$	$V_{RD}=5\text{V}$			0.1	$\mu\text{A}$
Tracking Error	$\Delta P_f$	$I_m=\text{const}$ , $T_C=-20$ to $70^{\circ}\text{C}$			0.5	dB
Cooler Voltage	$V_C$	$I_F=100\text{mA}$ , $T_C=70^{\circ}\text{C}$			2.5	V
Cooler Current	$I_C$	$I_F=100\text{mA}$ , $T_C=70^{\circ}\text{C}$			1.0	A
Thermistor Resistance	$R_{th}$	$T_{LD}=25^{\circ}\text{C}$ , $B=3900\pm 100\text{K}$	9.5	10	10.5	$\text{k}\Omega$
Optical isolation	$R_o$	$\lambda=1650\text{nm}$		30		dB
Current dependency of peak wavelength	$d\lambda/dI$	$I_F=100\text{mA}$		0.009		nm/mA
Temperature dependency of peak wavelength	$d\lambda/dT$	$I_F=100\text{mA}$		0.09		nm/ $^{\circ}\text{C}$



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.



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