

1.55 μ m LD MODULE AF5B310AC50L/AF5B310AF50L

The AF5B310AC50L/AF5B310AF50L are 1.55 μ m laser diode modules designed for optical measurement and communication. The laser is packaged in a 14-pin butterfly package with optical isolator, monitor photodiode and thermo-electric cooler (TEC).

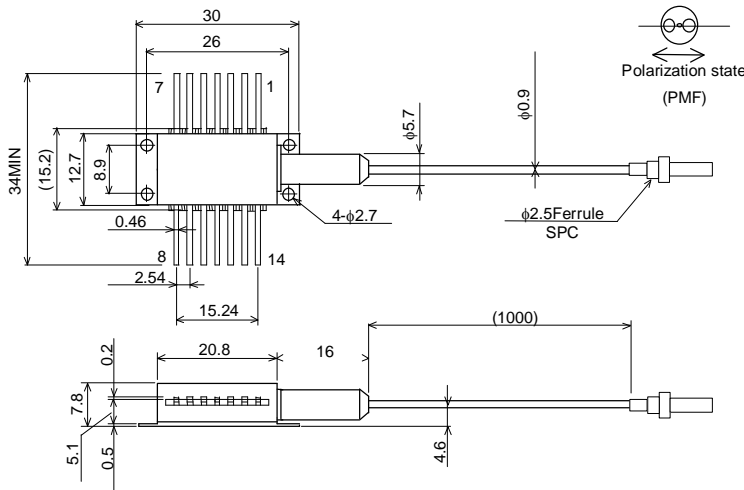
◆ FEATURES

- High optical output : 100mW/ 500mA
AF5B310AC50L
SMF output (Nylon jacket fiber: 0.9mm)
- AF5B310AF50L
PMF output (Nylon jacket fiber: 0.9mm)
- Built-in optical isolator
- Internal monitor PD and TEC

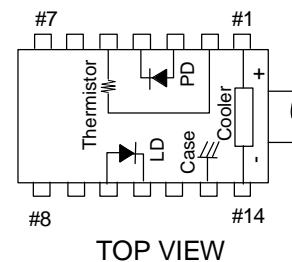
◆ ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Rating	Unit
LD Forward Current	I_F	900	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	$^{\circ}$ C
Storage Temperature	T_{stg}	-40 to +85	$^{\circ}$ C
Cooler Current	I_C	2	A

◆ DIMENSIONS



Package outline(Unit:mm)



TOP VIEW

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

Pin Configuration

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

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=500$ mA		2.0	2.5	V
Threshold Current	I_{th}			30	60	mA
Optical Output Power	P_f	$I_F=500$ mA	100			mW
Center Wavelength	λ_C	$I_F=500$ mA, RMS(-20dB)	1535	1550	1565	nm
Spectral Width	$\Delta\lambda$	$I_F=500$ mA, RMS(-20dB)		5	10	nm
Monitor Current	I_m	$I_F=500$ mA, $V_{RD}=5$ V	100	400		μ A
PD Dark Current	I_d	$V_{RD}=5$ V			0.1	μ A
Tracking Error	ΔP_f	$I_m=const$, $T_C=-20$ to 70° C			0.5	dB
Cooler Voltage	V_C	$I_F=600$ mA, $T_C=70^{\circ}$ C			3.2	V
Cooler Current	I_C	$I_F=600$ mA, $T_C=70^{\circ}$ C			1.2	A
Thermistor Resistance	R_{th}	$T_{LD}=25^{\circ}$ C, $B=3900\pm 100$ K	9.5	10	10.5	k Ω
Optical Isolation	R_o	$T_{LD}=25^{\circ}$ C		30		dB

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