P/N: C-13/15-001-PX-SXXX/XXX-XX

1310nm Emitting , 1550nm Receiving (PIN), Bi-directional Diplexer Optical Module

Features

- Single fiber bi-directional operation
- Laser diode with multi-quantum- well structure
- Low threshold current
- Fast pulse response
- Integrated WDM coupler
- Un-cooled operation from -40ºC to +85ºC
- Hermetically sealed active component
- Single mode fiber pigtailed with optional FC/ST/SC/MU/LC connector
- Design for fiber optic networks
- RoHS Compliant available

Absolute Maximum Ratings (Tc=25°C)

Parameter	Symbol	Rating	Unit
Fiber Output Power	P_f	1(L)1.5(M)/2.5(H)	mW
LD Reverse Voltage	V_{RLD}	2	V
PD Reverse Voltage	V_{RPD}	10	V
PD Forward Voltage	V_{FPD}	2	V
Operating Temperature	T_{opr}	-40 ~ 85	℃
Storage Temperature	T_{stg}	-40 ~ 85	℃

(All optical data refer to a coupled 9/125μm SM fiber)

Optical and Electrical Characteristics (Tc=25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Laser Diode							
Optical Output Power	L M H	P_f	0.2 0.5 1	0.4 0.75 1.6	0.5 1 -	mW	CW, I_{th}+20mA, kink free
Peak Wavelength		λ	1290	1310	1330	nm	CW, $P_f = P_f$(Min)
Spectrum Width (RMS)		Δλ	-	-	3	nm	CW, $P_f = P_f$(Min)
Threshold Current		I_{th}	-	12	15	mA	CW
Forward Voltage		V_F	-	1.2	1.6	V	CW, $P_f = P_f$(Min)
Rise Time / Fall Time		T_r / T_f	-	-	0.3	ns	$I_{bias}=I_{th}$, 10% to 90%
Monitor Diode							
Monitor Current		I_m	100	-	-	μA	CW, $P_f = P_f$(Min), V_{RPD} = 2V
Dark Current		I_{dark}	-	-	0.1	μA	V_{RPD} = 5V

Capacitance	C_t	-	6	15	pF	V_{RPD} = 5V, f = 1MHz
Detector						
Dark Current	I_{dark}	-	0.5	0.8	nA	V_R = 5V
Capacitance	C_t	-	0.7	0.9	pF	V_R = 5V
Rise Time / Fall Time	Tr / Tf	-	-	0.3	ns	V_R = 5V, 10% to 90%
Responsivity	R	0.65	-	-	A/W	V_R = 5V, λ=1480~1580nm
Module						
Tracking Error	ΔPf/ Pf	-1.5	-	1.5	dB	APC, -40 to 85°C
Optical Crosstalk	CRT		< -40		dB	-

Note:

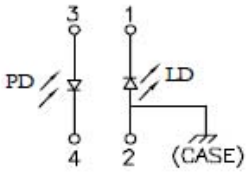
1. **Pin assignment can be customized.**
2. **Specifications subject to change without notice.**

Pin Assignment

LD Pin Assignment

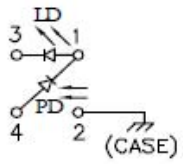
A Type

Pin 1 : Laser Cathode
Pin 2 : Laser Anode and Case Gnd
Pin 3 : Monitor Diode Anode
Pin 4 : Monitor Diode Cathode

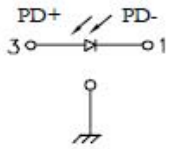


D Type

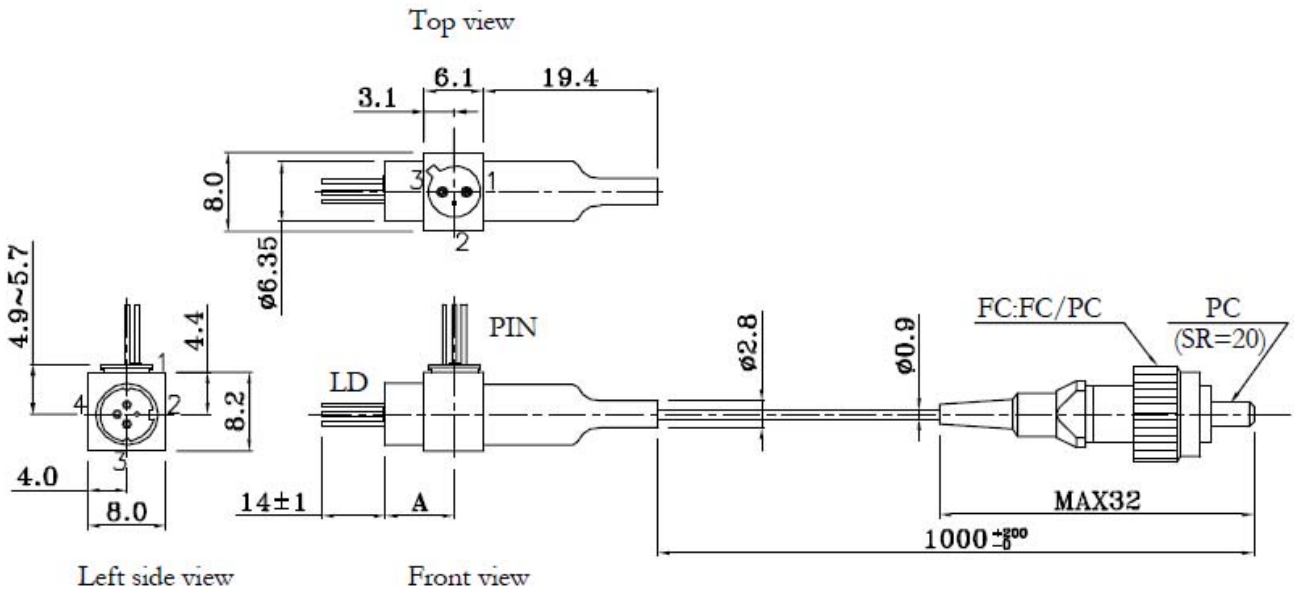
Pin 1 : Laser Anode and Monitor Diode Cathode
Pin 2 : Case Gnd
Pin 3 : Laser Cathode
Pin 4 : Monitor Diode Anode



PIN Pin Assignment



Packaging Dimensions (Units in mm)



P.S:A7.0~7.6 mm (Low & Middle power)
A9.3~9.9 mm (High power)

Ordering Information

C-13/15-001-PX-SXXX/XXX-XX

- 1310nm Transmitter / 1550nm Receiver
- Package: P=Pigtail
- Pin Assignment: Blank=A Type, D=D Type
- Connector: FC/ST/SC/MU/LC/Blank
- Fiber Output Power: L/M/H
- Blank=PC Fiber, APC=APC Fiber
- RoHS Compliant: Blank/G5/GR
  - Blank = RoHS non-compliant product
  - G5 = RoHS 5/6-compliant product (lead exemption)
  - GR = Full RoHS compliant product (no exemption)

Warnings

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.
Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

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