

## 850/1310 Bi-Di Device

**Features:**

- InGaAsP/InP MQW and Vcsel LD
- 850nm/1310nm double wavelength
- Low Threshold
- Monitor-PD diode
- MM package with pigtail and receptacle
- Rohs Compliant

**Application:**

- Fiber optical communication
- Measuring Meters and Gauges
- FTTH

**Transmitter Parameters:**

Parameters	Test Conditions	Unit	MIN	TYP	MAX
Wavelength $\lambda_p$	If=6mA	nm	830	850	860
	If=Ith+20mA		1290	1310	1330
Spectral Linewidth $\Delta\lambda$	FP(1310nm)	nm		2	4
	Vcsel(850nm)				0.85
Threshold Current Ith	850nm	mA		2	3
	1310nm			7	15
Forward voltage Vf	If=Ith+20mA(1310nm)	V		1.1	1.5
	If=6mA(850nm)		1.7	1.8	2.2
Fiber output power Pf	If=6mA、850nm	dBm	-8		
	If=Ith+20mA、1310nm		-8		
PD dark current Id	Vr=-5V 1310nm	uA			0.1
PD Capacitance(Vcsel)	Vr=3V@1MHz	pF		6	10
Rise and Fall Time (tr,tf)	Ib=Ith,Po=5mW 10-90%	ns(1310)		0.3	0.7
	Ibias=6mA 20-80%	ns(850)		0.10	0.15
Ralative Intensity Niose	If=6mA f=1GHz (850)	dB/Hz		-130	-122
Monitor current Im	If=Ith+20mA(1310nm)	uA	100		
	If=6mA(850nm)			450	

**Receiver Parameters:**

Parameters	Test Conditions	Unit	MIN	TYP	MAX
Wavelength $\lambda_p$	If=Ith+20mA	nm	1290	1310	1330
			830	850	860
Sensitivity	155Mb/s (850 receiver)	dBm		-29	-27
	155Mb/s(1310 receiver)			-35	-32
	1.25Gb/s(850 receiver)			-24	-21
	1.25Gb/s(1310 receiver)			-25	-23
Supply Voltage	1.25Gb/s (Vcc)	V	2.97		3.63
	155Mb/s (Vcc)		2.97		5.5
Supply Current	155Mb/s (Icc) (850 receiver)	mA			35
	155Mb/s (Icc) (1310 receiver)			20	25
	1.25Gb/s (Icc) (850 receiver)			30	40
	1.25Gb/s (Icc) (1310 receiver)			28	50
Rise and Fall Time (tr,tf)	Ib=Ith,Po=5mW 10-90% (155Mb/s)	ns		3	4.5
	Ib=Ith,Po=5mW 20-80% (1.25Gb/s)			0.3	0.4
Saturation Power		dBm	-3		
Differential output Voltage	Vd (155Mb/s)	V			1
Differential Responsivity	Rload=100ohm P=-24dBm 1310	mV/uW	16	22	27
	Rload=100ohm P=-22dBm 850		6.8	24	
Crosstalk	Vr=5V, CW	dB	45		

**Absolute Ratings:**

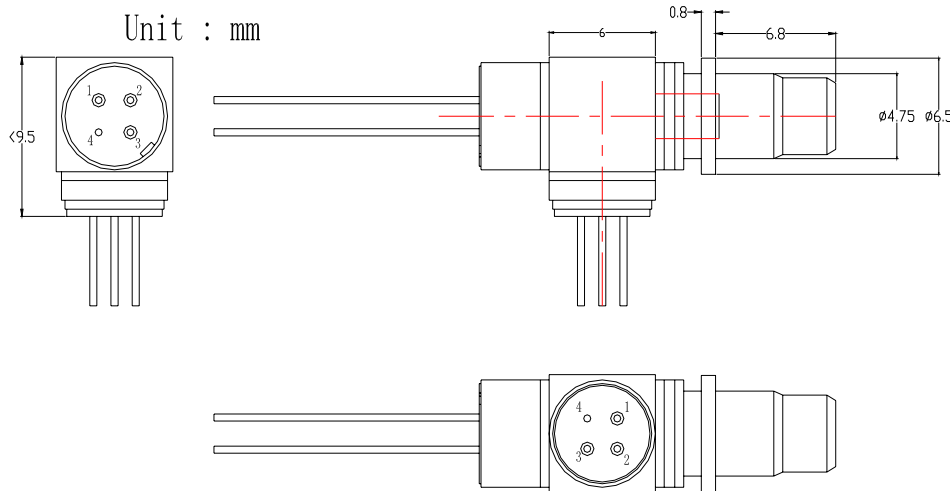
parameters	conditions	Values
Operating Temperature(°C)		-10~+85
Storage Temperature(°C)		-40~+125
Opposite Voltage Vr(v)	CW	2.0
Lead Solder Temperature (°C)	10 Seconds	260
Continuous Forward Current (Vcsel)	mA	12
Continuous Reverse Voltage(Vcsel)	V(10uA)	5

**Pin Assignment**

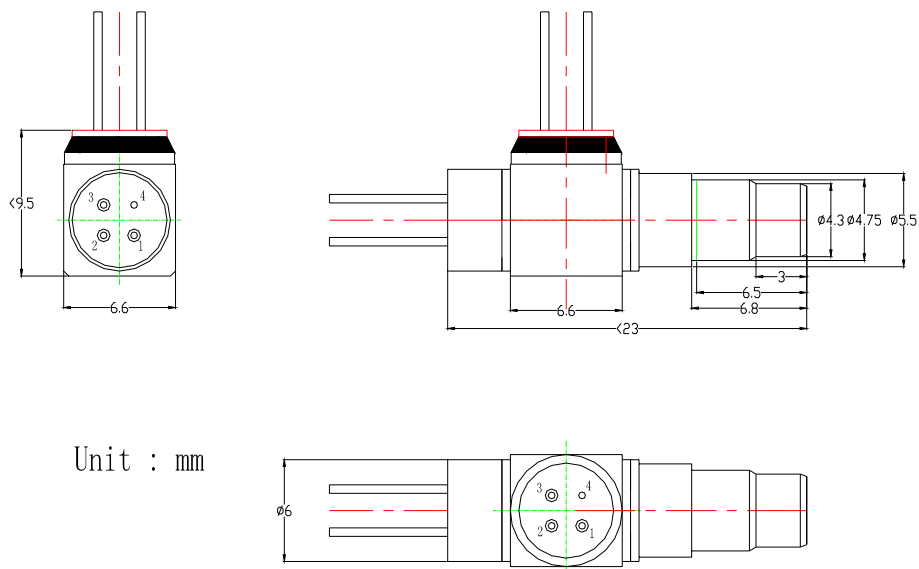
PN	Laser Diode	Vcsel(Common Cathode)	Vcsel (Common anode)	Pin-Tia
1	LD cathode	Vcsel Anode	Vcsel Cathode	Vcc
2	PD anode	Vc Cathode/PD Anode	Vc Anode/PD Cathode	Dout-
3	LD anode/PD cathode	PD Cathode	PD Anode	Dout
4	Gnd & Case	Case	Case	Case

**Assembly Drawing:**

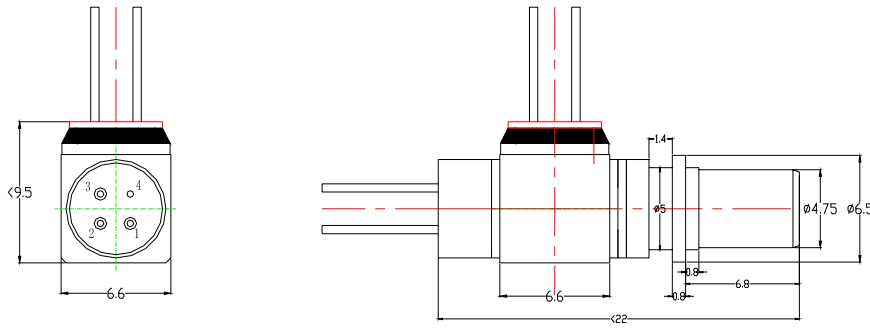
**Type 1: (FC & SC)**



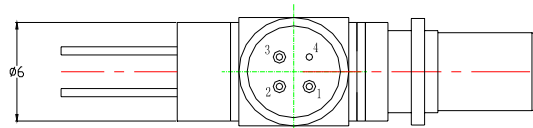
**Type 2: (FC)**



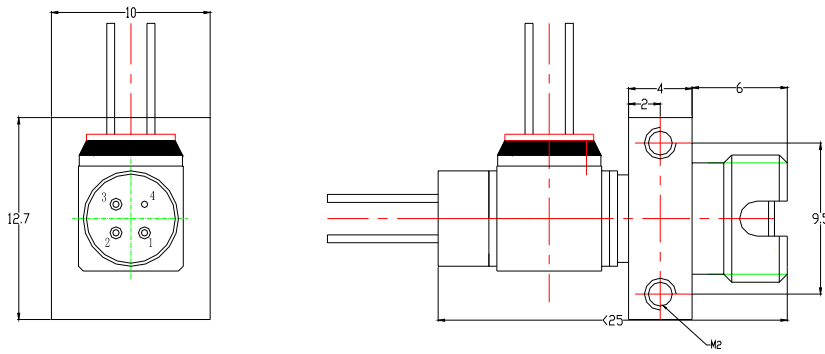
**Type 3 : ( SC )**



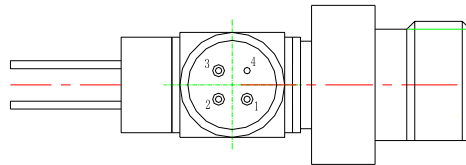
Unit : mm



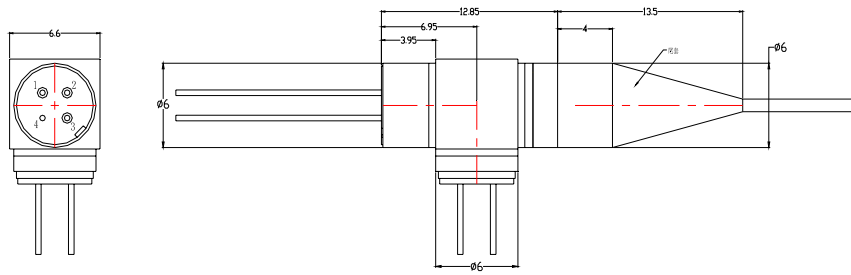
**Type 4 : ( FC With connector)**



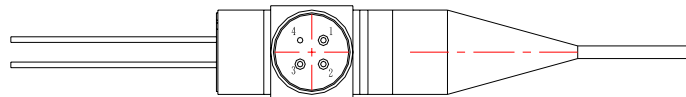
Unit : mm



**Type 5 : ( Pigtail )**



Unit : mm



**Order Information:**

BIDI pigtail

BP-ABCDEFGHEI

A-LD type	B-LD wave	C-Power (dBm)	D-Data rate	E-P type	F-Rx	G-sen	H-Data rate	E-Volt	F-Package	I-fiber
F-FP	1-650nm	1\ -10-15	1\ 1.25Gb/S	A	1-Si-Pin	1\ <-36dBm	1\ 2Mb/S	3-3.3v	1-FC/PC	S single
D-DFB	2-850nm	2\ -8~-10	2\ 2.5Gb/s	C	2-APDpin	2\ <-31dBm	2\ 155Mb/s	5-5v	2-SC/PC	M5-50um
E-LED	3-1310nm	3\ -3~-8	3\ 10Gb/s	E	3-G-pin	3\ <-26dBm	3\ 622Mb/s		3-ST/PC	M6-62.5um
	4-1490nm	4\ 0~-3	0\ other		4-PinTia	4\ <-20dBm	4\ 1.25Gb/s		4-LC/PC	MT-400um
	5-1550nm	5\ +3~0			5-5Pintia	5\ <-18dBm	5\ 2.5Gb/s		5-FC/APC	
	6-1625nm	6\ +6~+3			6-APD	0\ Other	6\ 10Gb/s		6-SC/APC	
	7-CWDM	7\ >+6							7-LC/APC	

BIDI Receptacle

BC-ABCDEFGHEI

A-LD type	B-LD wave	C-Power (dBm)	D-Data rate	E-P type	F-Rx	G-sen	H-Data rate	E-Volt	F-Package	I-fiber
F-FP	1-650nm	1\ -10-15	1\ 1.25Gb/S	A	1-Si-Pin	1\ <-36dBm	1\ 2Mb/S	3-3.3v	1-SC	S single
D-DFB	2-850nm	2\ -8~-10	2\ 2.5Gb/s	C	2-APDpin	2\ <-31dBm	2\ 155Mb/s	5-5v	2-FC	M5-50um
E-LED	3-1310nm	3\ -3~-8	3\ 10Gb/s	E	3-G-pin	3\ <-26dBm	3\ 622Mb/s		3-LC	M6-62.5um
	4-1490nm	4\ 0~-3	0\ other		4-PinTia	4\ <-20dBm	4\ 1.25Gb/s			MT-400um
	5-1550nm	5\ +3~0			5-5Pintia	5\ <-18dBm	5\ 2.5Gb/s			
	6-1625nm	6\ +6~+3			6-APD	0\ Other	6\ 10Gb/s			
	7-CWDM	7\ >+6								