

## 1310nm 10Gbps DFB Lasers TO

### BI5D-8120-x Series

**TYPE NAME: BI5D-8120-3H6**

#### Product Description:

The LuxNet BI5D-8120-x TO-56 header assembly is designed for high speed, high performance data communication and telecommunication applications. This device is integrated with a 1310 nm 10Gbps DFB laser, a TO-56 header, a monitoring photodiode, and a ball lens cap. The product is designed for 10Gbps long reach and intermediate reach optical communication systems. This TO header assembly can be integrated with different types of ports that are engaged with a single mode fiber connector to provide good coupling efficiency as light generated by the DFB laser is transmitted into a single mode fiber.

#### Product Specifications:

##### Absolute Maximum Ratings

Parameter	Symbol	Unit	Min.	Max.	Note
Operating Temperature(Ta)	T <sub>op</sub>	°C	-40	85	
Storage Temperature	T <sub>stg</sub>	°C	-40	85	
Solder Reflow Temperature	STEM	°C		260	10 seconds max.
Maximum Power	P <sub>o</sub>	mW		10	
Reverse Voltage	V <sub>r</sub>	V		2	
Photodiode Forward Current	I <sub>pd</sub>	mA		10	

##### Electro-Optical Characteristics (T = 25°C, unless noted otherwise):

Parameter	Symbol	Unit	Min.	Typ	Max.	Test Condition
Threshold Current	I <sub>th</sub>	mA		8	15	CW, Ta=25°C
Forward Voltage	V <sub>f</sub>	V		1.2	1.5	CW, I <sub>th</sub> +20mA
Slope Efficiency	η	mW/mA	0.20	0.30	0.45	Average, I <sub>th</sub> +5 mA to I <sub>th</sub> +20 mA
Peak Wavelength	λ <sub>p</sub>	Nm	1300	1310	1320	CW, I <sub>op</sub> =I <sub>th</sub> +20mA
Side Mode Suppression Ratio	SMSR	dB	30			CW, I <sub>th</sub> +20mA
Rise / Fall Time	t <sub>r</sub> , t <sub>f</sub>	ps		50/50		I <sub>th</sub> +20 mA, 20-80%
Focal Point of Fiber Coupling	FL	mm	5.9	6.1	6.3	CW, maximum coupling to SMF (9/125), PC fiber without theta alignment

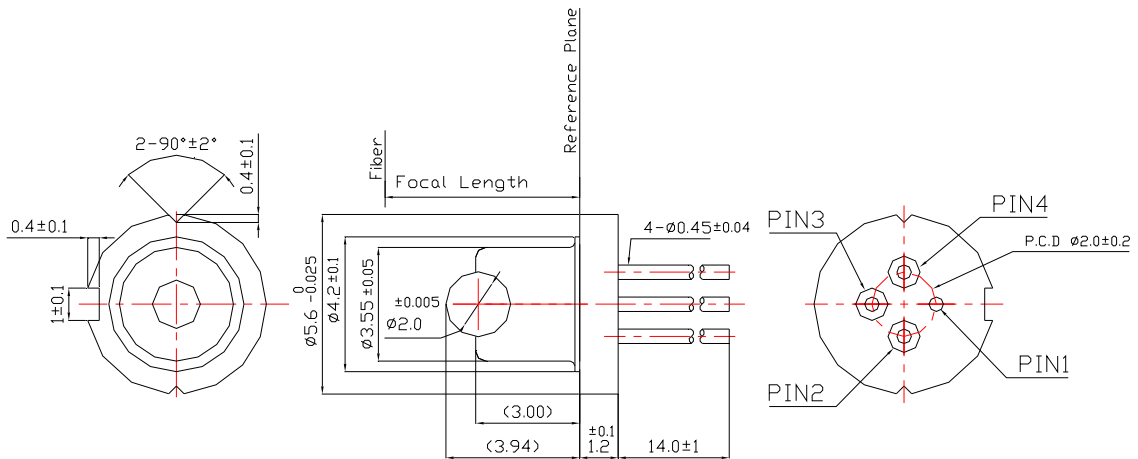
##### Photodiode Characteristics (T = 25°C, unless noted otherwise):

Parameter	Symbol	Unit	Min.	Typ	Max	Test Condition
Monitor Current	I <sub>m</sub>	mA	0.03	0.1		CW, I <sub>th</sub> + 20 mA , VRPD = 2 V
PD Dark Current	I <sub>d</sub>	nA			100	P <sub>oc</sub> = 0, V <sub>r</sub> = 1.7V
PD Capacitance	C	pF		10	20	V <sub>r</sub> = 5V @ 1MHz

\* Specifications are subject to change without notice.  
\* Screening per customer-specified reject limits is available.

## BI5D-8120-3H6 (TO-can)

**Dimensions:** (mm)  
*All dimensions are nominal*



### PINOUT

BI5D-8120-3H6(FL:6.10±0.2mm)	
Number	Function
1	GND/ Photodiode Anode
2	Laser Diode Cathode
3	Photodiode Cathode
4	Laser Diode Anode

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### Notice

Version	Date	Status	Description	Signature
1.0	2014/06/17	Initial	BI5D-8120-3H6 datasheet Specification	Allen

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Version 1.0