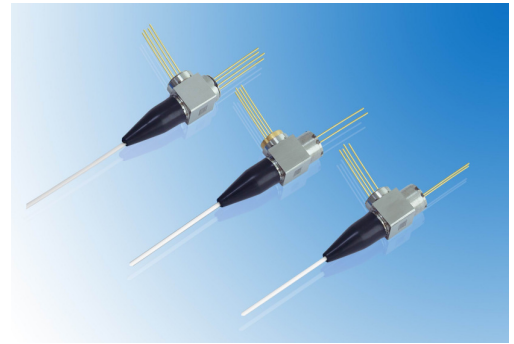


## 1550T/1310R 1.25G~2.5G DFB BOSA

With 1.55um MQW-DFB WDM Laser Diode and Long Wavelength PIN Photodiode Module for Wide Frequency-range for CATV Transmission

### Features

- ◆ Coaxial Package
- ◆ InGaAsP/InP MQW-DFB laser Diode
- ◆ Low threshold, high slope efficiency and high output power
- ◆ Operating Case temperature: -40°C to +85°C
- ◆ Single-mode fiber pigtailed with SC FC ST or LC connector
- ◆ High channel isolation
- ◆ Low return loss
- ◆ Long distance digital transmission system
- ◆ Cable television system
- ◆ WDM systems



### Ordering information (Standard version<sup>\*Note1</sup>)

Part No	Laser type	Transmitter/Receiver
GBDP-5X30XD2XX	DFB	15T/13R

Note1: For more ordering information, please refer to nomenclature or contact EOPTOLINK sales.

### Nomenclature

Code	Parameter	Detailed Description		
A	Launch Wavelength	5=1550		
B	Launch Data rate	6=1.25Gbps	8=2.5Gbps	
C	Receiver Wavelength	3=1310		
D	Receiver Data rate	0=Pin		
E	Connector	F=FC/PC	S=SC/PC	T=ST/PC
		L=LC/PC	FA=FC/APC	SA=SC/APC
F	Laser type	D=DFB LD		
G	LD Pin Type	2=pin-2		
H	Isolator	None	G=with I	G2=with II
I	Fiber diameter	Blank=SM		M=MM

## Absolute maximum ratings

Parameter	Symbol	Ratings	Unit
Storage temperature	Tstg	-40~+85	°C
Operating case temperature	Top	-40~+85	°C
Operation Relative Humidity		85	%
Forward current (LD)	IFD	150	mA
Monitor PD Reverse voltage (LD)	VrL	2	V
Monitor PD Reverse voltage (PD)	VrP	15	V
Monitor PD Reverse current (PD)	IrP	2	mA
PD Forward Current	I <sub>FD</sub>	10	mA
PD Reverse Voltage	V <sub>pd</sub>	50	V
Soldering temperature (<10s)	Stemp	260	°C

## Electrical and optical characteristics - Transmitter

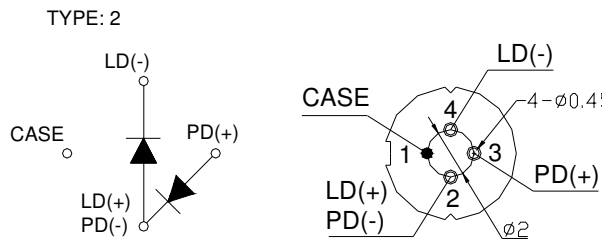
(I<sub>f</sub>=I<sub>th</sub>+20mA, P<sub>f</sub>=1mW, SMF(9.5/125μm), T<sub>c</sub>=+25+/-2°C, unless otherwise noted.)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Threshold current	I <sub>th</sub>	CW	3	8	15	mA
Output Power (After coupled)	P <sub>f</sub>	CW, I <sub>f</sub> =I <sub>th</sub> +17mA	1	2	3	mW
Operating voltage	V <sub>f</sub>	CW, T <sub>c</sub> =-40~+85□	—	1.2	1.6	V
Slope efficiency	Se	CW, Average	0.1	0.2	0.28	mW/mA
Peak wavelength	λ <sub>p</sub>	CW	1540	1550	1560	nm
		CW T <sub>c</sub> = -40~+85□	1530	—	1570	
Spectral width	Δλ	CW, -20dB	—	—	1	nm
Side Mode Suppression Ratio	SMSR	CW	30	—	—	dB
Rise and Fall Time	t <sub>r</sub> ,t <sub>f</sub>	I <sub>b</sub> =I <sub>th</sub> , P <sub>L</sub> =1.5mW,20~80%	—	0.1	0.2	ns
Monitor Current (PD)	I <sub>m</sub>	CW,P <sub>L</sub> =1.5mW,VRD=1V	0.05	0.2	—	mA
Dark Current (PD)	I <sub>d</sub>	VRD=10V	—	—	0.1	uA
Capacitance (PD)	C <sub>t</sub>	VRD=10V,f=1MHz	—	10	20	pF
Connector repeatability	—	—	-1	—	1	dB
Wavelength Isolation	—	—	15	—	—	dB
RF bandpass flatness	—	—	—	—	4	dB
Relative intensity Noise	—	—	—	-155	-145	dB/Hz
Optical Isolation	—	Single Stage	30	—	—	dB
	—	Dual Stage	40	—	—	

## Electrical / Optical Specifications - Receiver

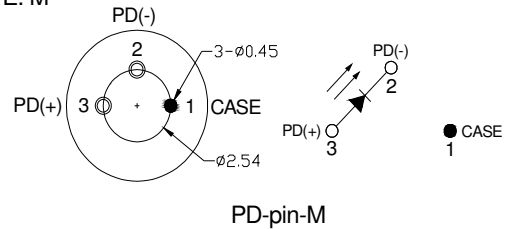
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Detection Wavelength Range	$\lambda$	-	1100		1650	nm
Active Diameter	DA	-	—	75	—	$\mu\text{m}$
Responsivity	R	VR=-5V@1310nm	—	0.80	—	A/W
		VR=-5V@1550nm	—	0.85	—	A/W
Return Loss	RL		—	-55	—	dB
Dark Current	$I_d$	VR = 5V	—	0.1	1	nA
Capacitance	$C_p$	VR = 5V	—	0.6	0.7	pF
Bandwidth	BW	VR=5V	2		—	GHz

## Pin Assignment<sup>\*Note2</sup>

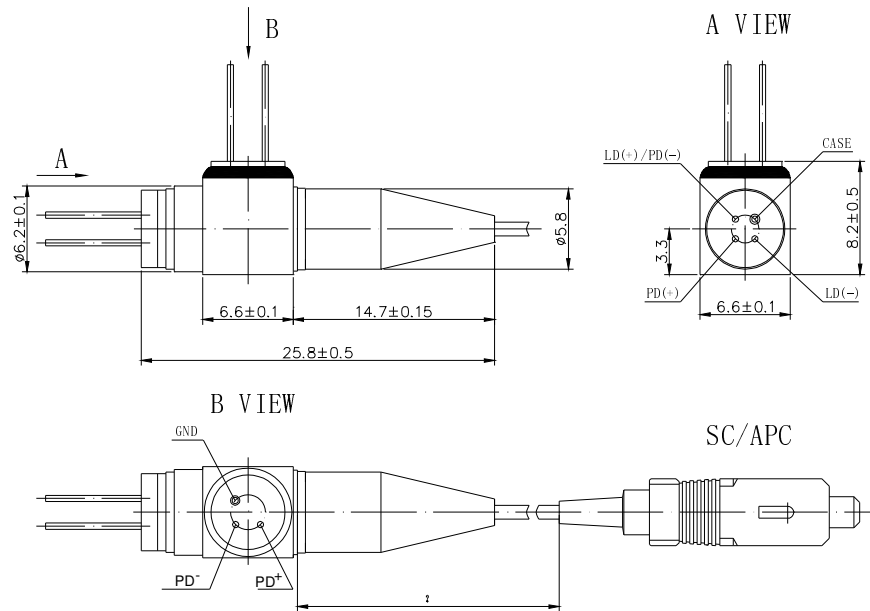


LD-pin-2 / TYPE: B

Note2: Pin assignment can be customized.



## Pigtail Package series<sup>\*Note3</sup>



Note3: PIN direction and laser mark can be customized. Pigtail is standard SM fiber; the length also can be customized.

## Precaution

- (1) The modules should be handled in the same manner as ordinary semiconductor devices to prevent the electro-static damages. For safe keeping and carrying, the modules should be packaged with ESD proof material. To assemble the modules on PCB, the workbench, the soldering iron and the human body should be grounded.
- (2) Please pay special attention to the atmosphere condition because the dew on the module may cause some electrical damages.
- (3) Under such a strong vibration environment as in automobile, the performance and reliability are not guaranteed.

## Obtaining Document

You can visit our website:

<http://www.eoptolink.com>

Or contact Eoptolink Technology Inc., Ltd. listed at the end of the documentation to get the latest documentation.

## Revision History

Version	Initiated	Reviewed	Approved	Release Date
V2	Zore.Zhao	Cathy.Chen		2009-12-20

## Notice:



## **Pigtail BIDI BOSA DFB Series**

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