

1310nm FP TX/1550nm RX PD Pigtail BOSA

HERPD31xx510MSAxx

Features:

- ◆ Coaxial Package
- ◆ InGaAsP/InP MQW-FP 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 PD Reverse Voltage
- ◆ Low return loss

**Applications:**

- ◆ Long distance digital transmission system
- ◆ Cable television system
- ◆ WDM systems

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 _{FD}	10	mA
PD Reverse Voltage	V _{pd}	50	V
Soldering Temperature (<10s)	Stemp	260	°C

Electrical and Optical Characteristics – Transmitter:

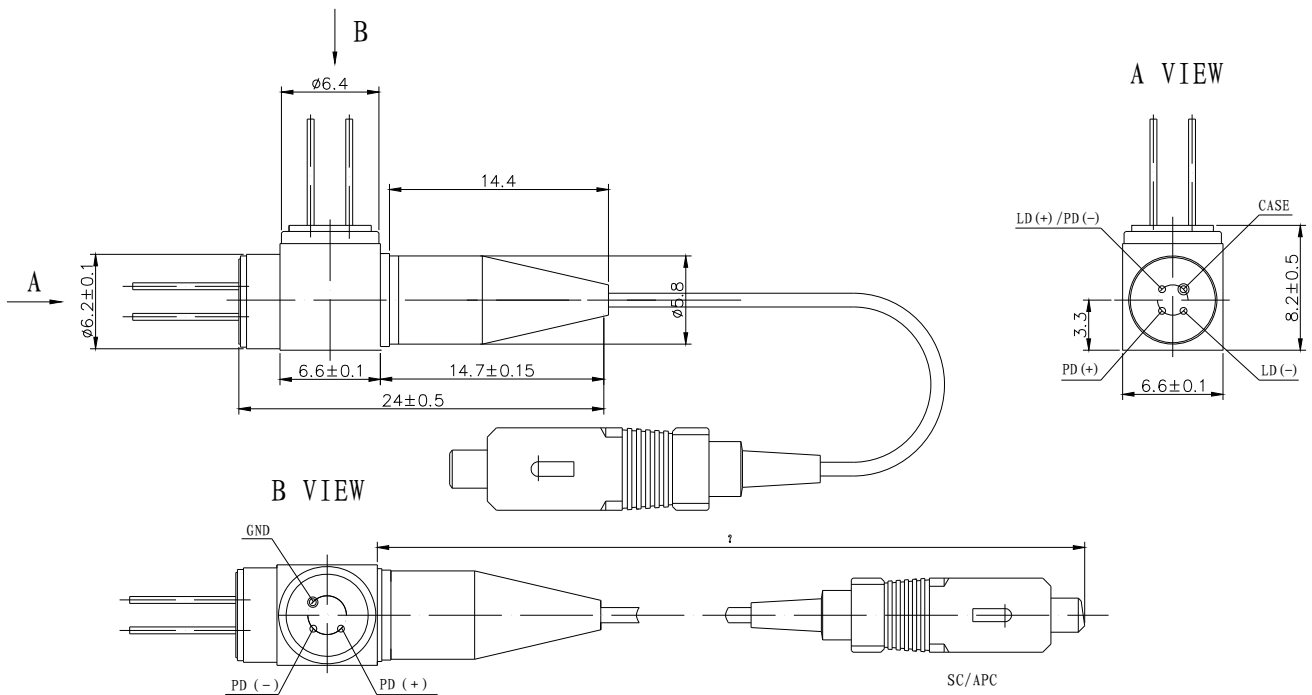
(If=Ith+20mA, Pf=1mW, SMF (9.5/125μm), Tc=+25+/-2°C, unless otherwise noted.)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current	Ith	CW	—	8	15	mA
Output Power (After coupled)	Pf	CW, If=Ith+17mA	0.5	1	2	mW
Operating Voltage	Vf	CW, Tc=-40~+85°C	—	—	1.6	V
Slope Efficiency	Se	CW, Average	0.025	0.05	0.1	mW/mA
Peak Wavelength	λp	CW	1290	1310	1325	nm
		CW Tc= -40~+85°C	1280	—	1335	
Spectral Width	Δλ	CW, RMS	—	—	1	nm
Rise and Fall Time	tr,tf	Ib=Ith, PL=1.5mW, 20~80%	—	—	0.15	ns
Monitor Current (PD)	Im	CW, PL=1.5mW, VRD=1V	80	300	—	uA
Dark Current (PD)	Id	VRD=5V	—	—	10	nA
		VRD=5V, Tc= -40~85°C	—	—	100	
Capacitance (PD)	Ct	VRD=10V, f=1MHz	—	—	10	pF
Connector Repeatability	—	—	-1	—	1	dB
Wavelength Isolation	—	—	15	—	—	dB
RF Bandpass Flatness	—	—	—	—	4	dB
Optical Isolation	—	Single Stage	30	—	—	dB
	—	Dual Stage	40	—	—	

Electrical / Optical Specifications – Receiver:

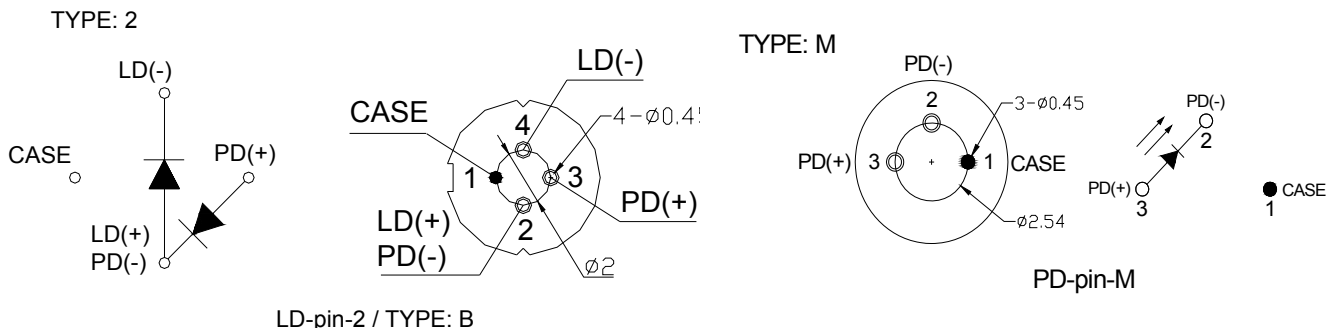
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Detection Wavelength Range	λ	-	1100	—	1650	nm
Active Diameter	DA	-	—	75	—	μm
Responsivity	R	VR=-5V@1310nm	—	0.80	—	A/W
		VR=-5V@1550nm	—	0.85	—	A/W
Return Loss	RL	—	—	-50	—	dB
Dark Current	Id	VR = 5V	—	0.1	1	nA
Capacitance	Cp	VR = 5V	—	0.6	0.7	pF
Bandwidth	BW	VR=5V	1	—	—	GHz

Package Dimension: *Note1



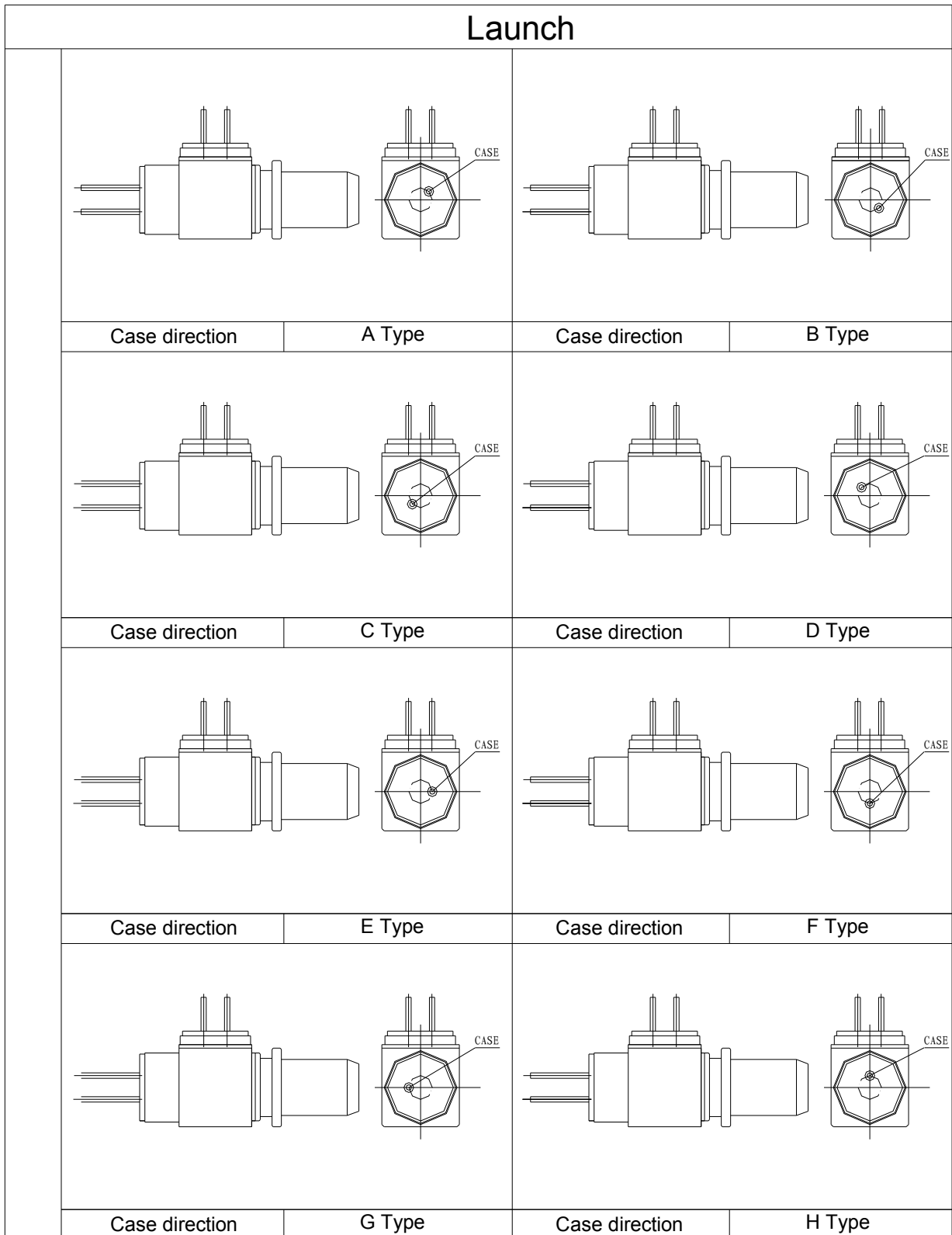
Note1: PIN direction and laser mark can be customized. Pigtail is standard SM fiber; the length also can be customized.

Pin Assignment: *Note2



Note2: Pin assignment can be customized.

TX Pin Order Code: *Note3、4、5

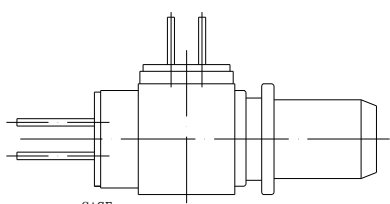
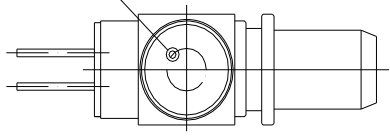
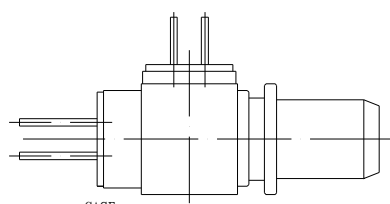
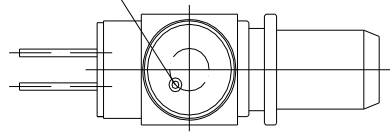
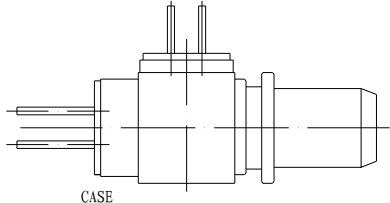
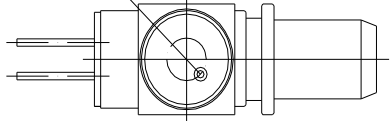
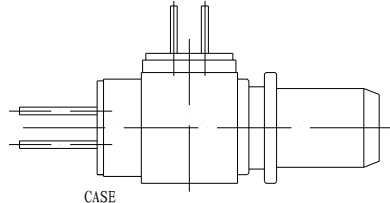
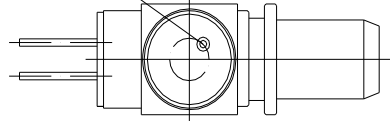
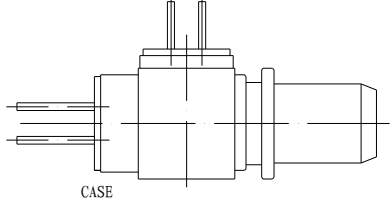
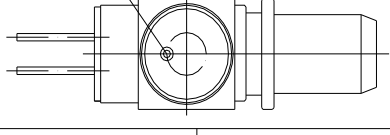
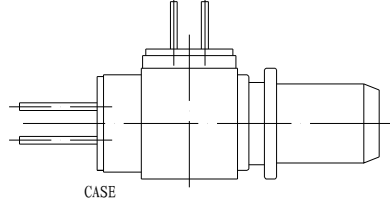
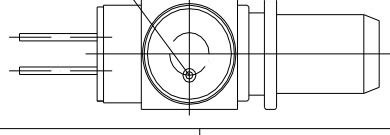
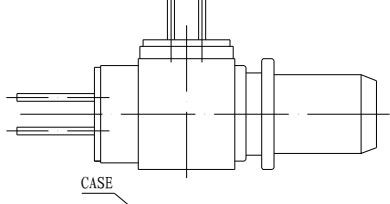
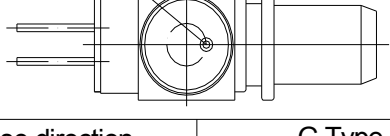
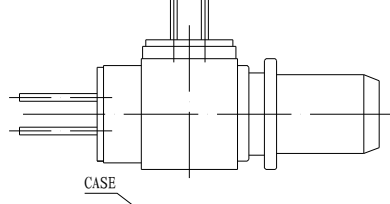
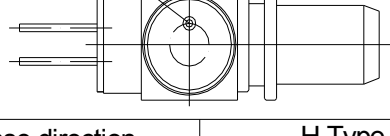


3、 This picture is for pluggable, pigtail BIDI chip PIN package direction's reference.

4、 This picture is suitable for RX Pin direction comparison .

5、 The package direction is described as "x-x" For example "A-B", "A" is TX chip Pin direction, "B" is RX chip Pin direction.

RX Pin Order Code:

Receive					
 		 	A Type	B Type	
Case direction		Case direction			
 		 		C Type	D Type
Case direction		Case direction			
 		 		E Type	F Type
Case direction		Case direction			
 		 		G Type	H Type
Case direction		Case direction			

Ordering Information: (Standard version) *Note6

Part No	Laser type	Transmitter/Receiver
HED310150CSAA	FP	13T/15R

Note6: For more ordering information, please refer to nomenclature or contact HighEasy sales.

Nomenclature:

HEBIDI-

A B C D E F G H I J K L M N

Code	Parameter	Detailed Description							
A	Laser Type	BLANK=FP LD				D=DFB LD			
B	Launch Wavelength	3=1310nm							
C	Launch Data rate	1=1.25G				2=2.5G			
D	Output Power	08=0.5~0.99mW				15=1~1.59mW			
E	TX Pin Type	Blank=LD-pin-2							
F	Receiver Wavelength	5=1550nm							
G	Active Diameter	Blank =75um							
H	Bandwidth	0≤1.5GHz							
I	Connector	F=FC/PC		S= SC/PC		T=ST/PC		Blank=None	
		FA=FC/APC		SA= SC/APC		L=LC/PC			
J	TX Pin Package Direction	A	B	C	D	E	F	G	H
K	TX Pin Package Direction	A	B	C	D	E	F	G	H
L	RX TO Insulated With Shell	Blank =Insulation				J=NO Insulation			
M	Isolator	Blank=None			G=with I			G2=with II	
N	Fiber Length	Blank=50cm			035=35cm		100=100cm		XXX=Custom

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.

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