

## 1310TX FP 1550RX PIN-TIA Receptacle 1x5&amp;1x9 BOSA(FC&amp;ST)

HETRR3205x5xxAxxxxx (1x5 &amp; 1x9)

**Features:**

- ◆ Coaxial Package
- ◆ InGaAsP/InP MQW-FP Laser Diode
- ◆ Low threshold, high slope efficiency and high output pow
- ◆ Operating Case Temperature: -40°C to +85°C
- ◆ Single-mode fiber-stub with FC ST connector
- ◆ High channel isolation
- ◆ Low return loss

**Applications:**

- ◆ Long distance digital transmission system
- ◆ Cable television system
- ◆ WDM systems
- ◆ Compatible with 100M/1000M

**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	100	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 Reverse Voltage	Vpd	15	V
TIA Supply Voltage	Vcc	3.3 / 5	V
Soldering Temperature (<10s)	Stemp	260	°C

**Electrical and Optical Characteristics – Transmitter:**

(Unless specified else, the specifications below are defined at Tc=25°C, SMF)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Threshold Current	Ith	—	9	15	mA	CW, T=25°C
			15	35		CW, T=0~85°C
Output Power	Pf	0.2	—	0.99	mW	CW, If=Ith+20mA
Operating Voltage	Vf	—	1.2	1.5	V	CW, If=Ith+20mA
Slope Efficiency	Se	0.01	0.025	0.05	mW/mA	CW, Average
Peak Wavelength	λp	1290	1310	1330	nm	CW
		1260	—	1360		CW Tc= -40~+85°C
Spectrum Width(RMS)	Δλ	—	1.0	3	nm	CW, If=Ith+20mA
Monitor Current	Im	0.1	0.3	1	mA	CW, If=Ith+20mA
Dark Current	Id	—	—	0.1	uA	Poc=0, VrP=1.7V
PD Capacitance	C	—	10	20	pF	VrP=5V@1MHz

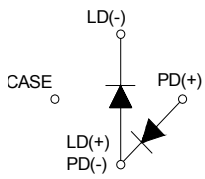
**Electrical / Optical Specifications – Receiver:**

(Unless specified else, the specifications below are defined at Tc=25°C, SMF)

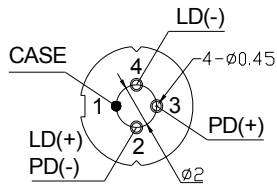
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Operating Wavelength	λ	1530	1550	1570	nm	
Supply Voltage	Vcc	3.0	3.3	3.6	V	
Supply Current	Icc	20	—	59	mA	Vcc=3.3V
Saturation Power	Psat	-3	0	—	dBm	
Sensitivity	Sen	—	-37	-35	dBm	λ=1550nm, 155M, RBS=2 <sup>7</sup> -1, BER=10 <sup>-10</sup> ,
		—	-32	-31	dBm	λ=1550nm, 622M, RBS=2 <sup>23</sup> -1, BER=10 <sup>-10</sup> ,
		—	-28	-27	dBm	λ=1550nm, 1.25G, RBS=2 <sup>7</sup> -1, BER=10 <sup>-10</sup> ,
		—	-24	-22	dBm	λ=1550nm, 2.5G, RBS=2 <sup>23</sup> -1, BER=10 <sup>-10</sup>

**Pin Assignment:**

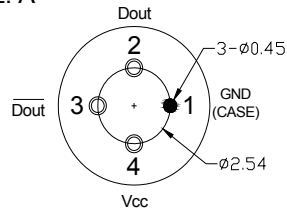
TYPE: 2



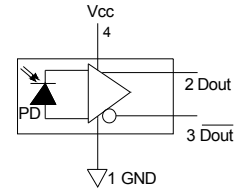
LD-pin-2 / TYPE: B



TYPE: A

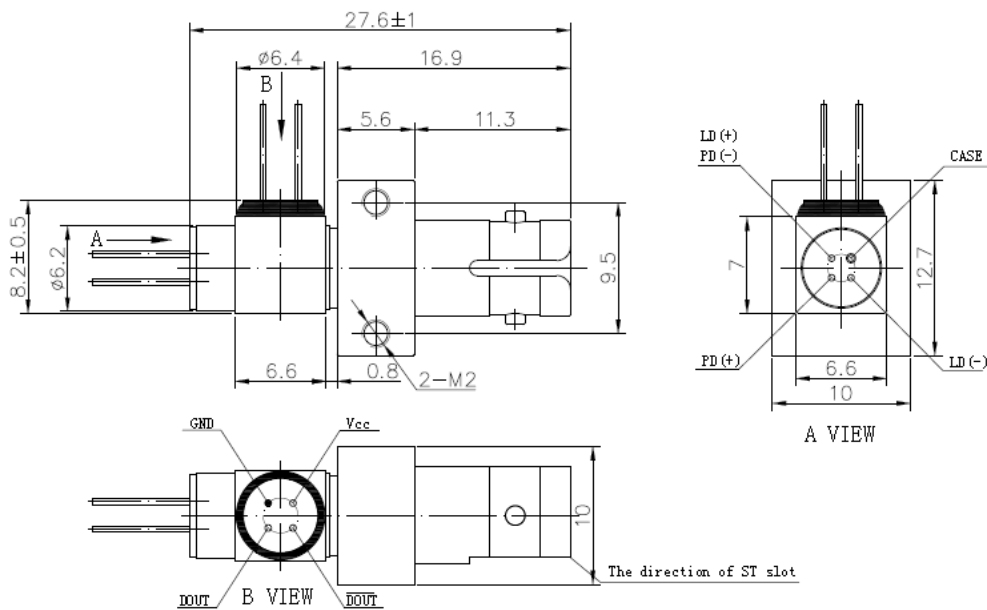


PIN-TIA-pin-A

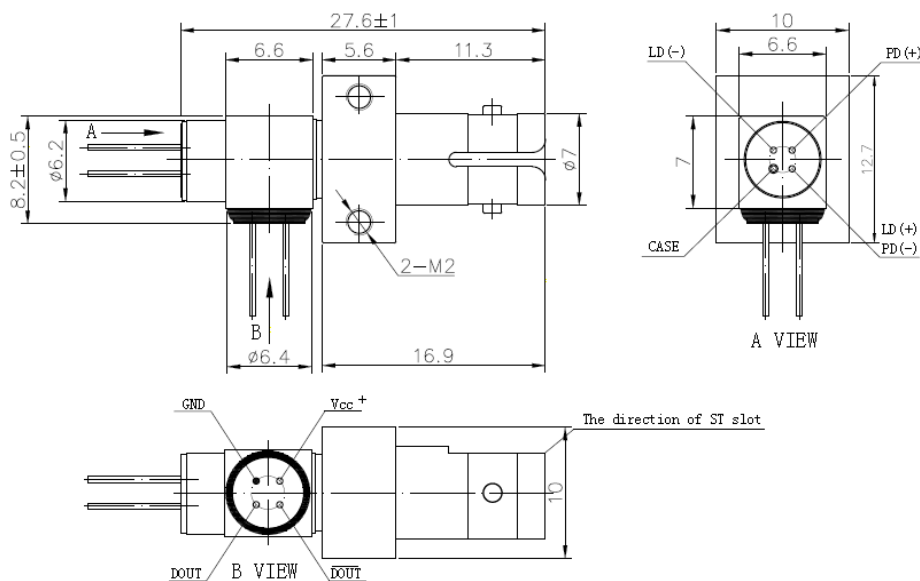


**Package Dimension:** \*Note1

1x5 ST

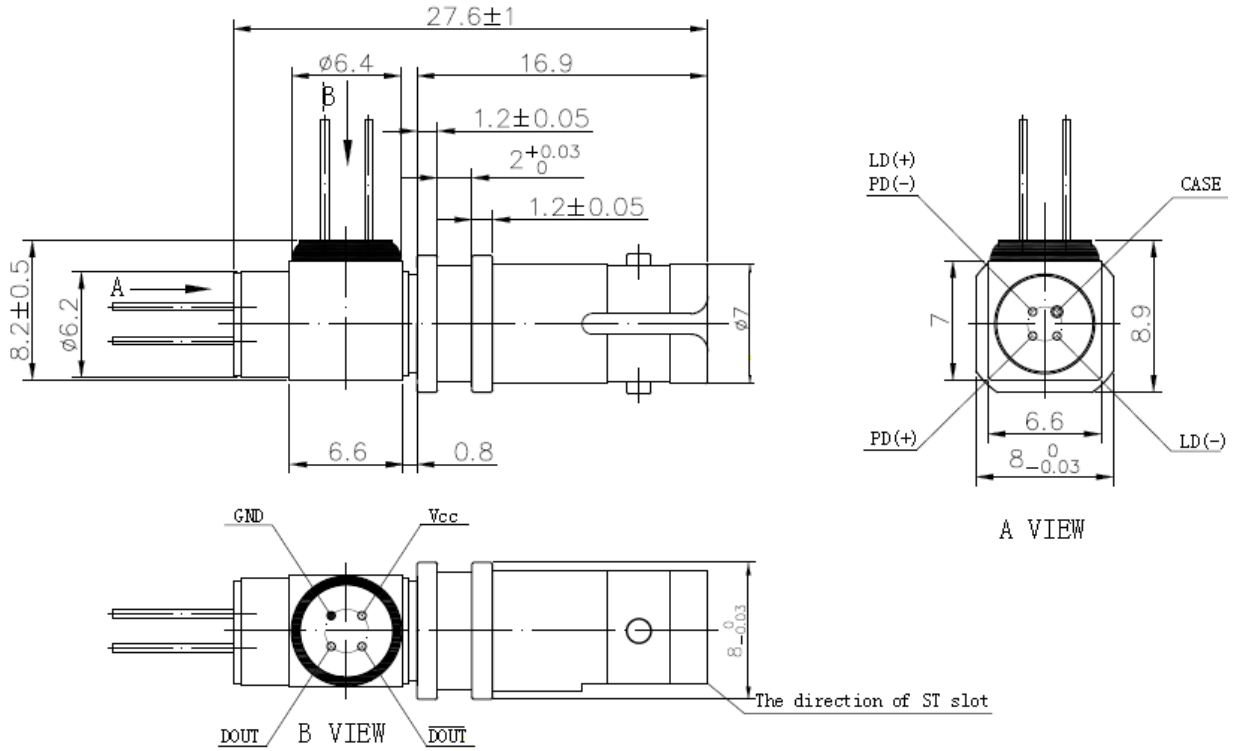


Code:U

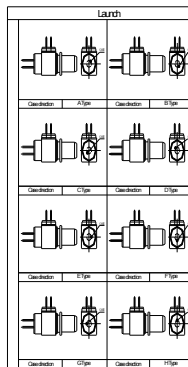


Code:D

1x9 ST

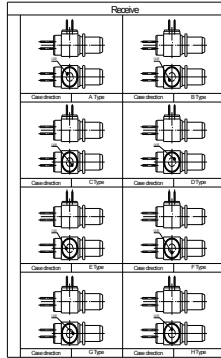


Code:U

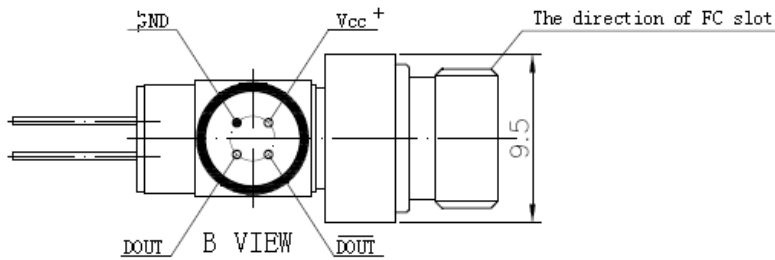
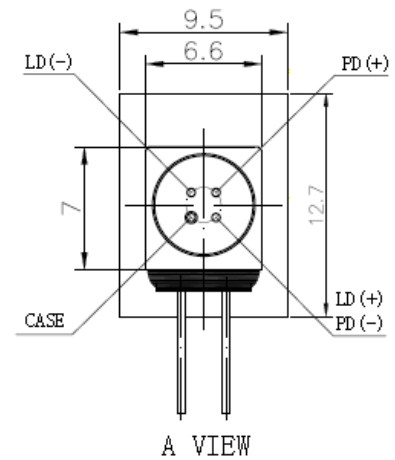
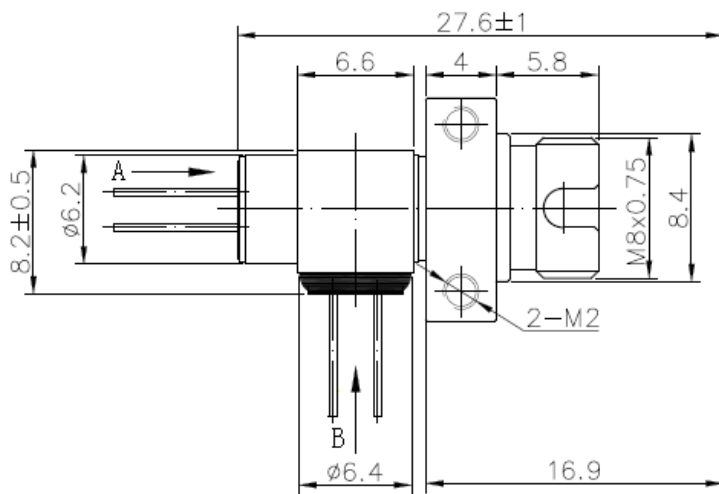


Code:D

1x5 FC

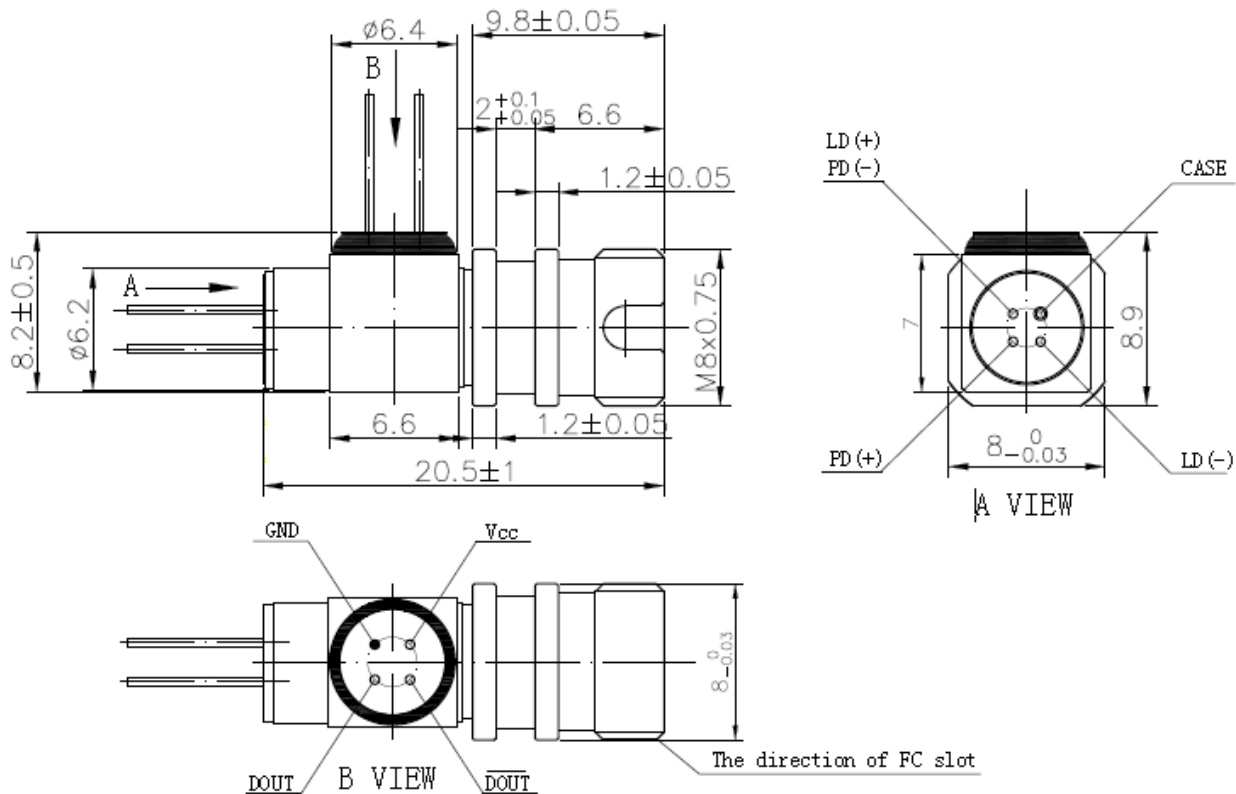


Code:U

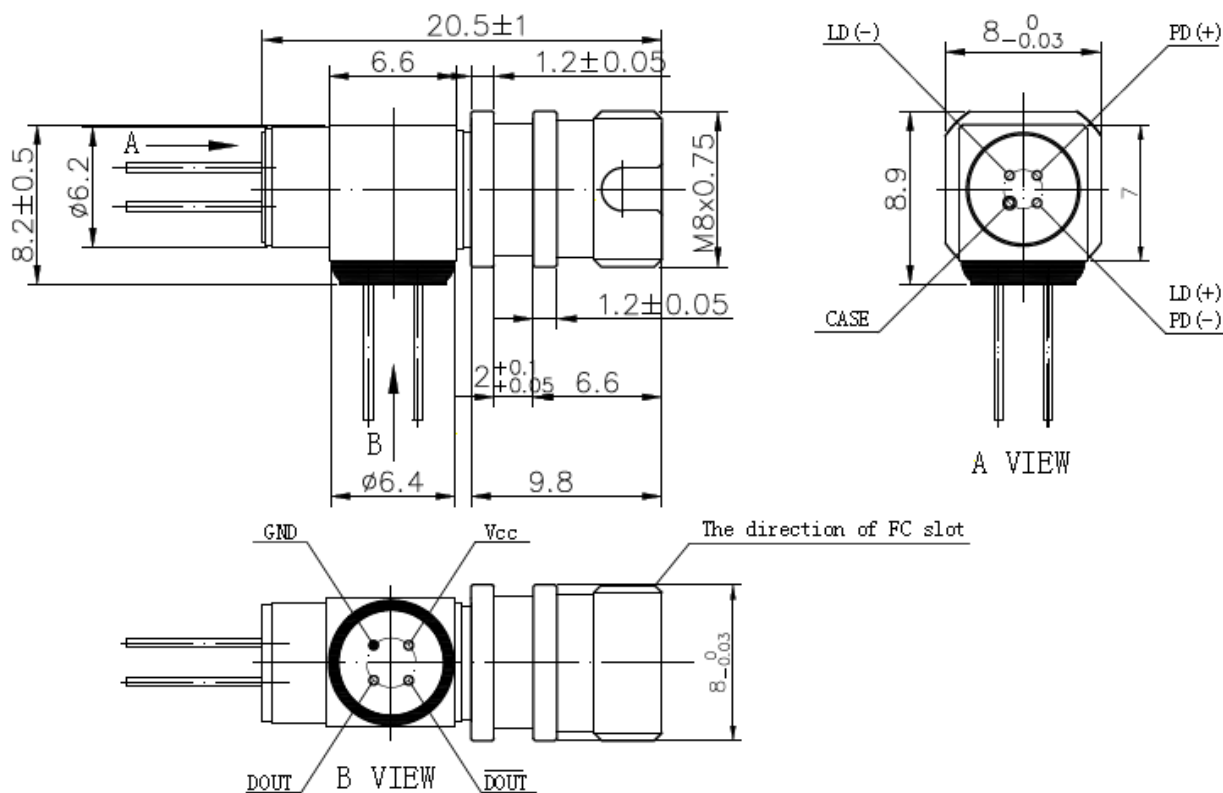


Code:D

1x9 FC



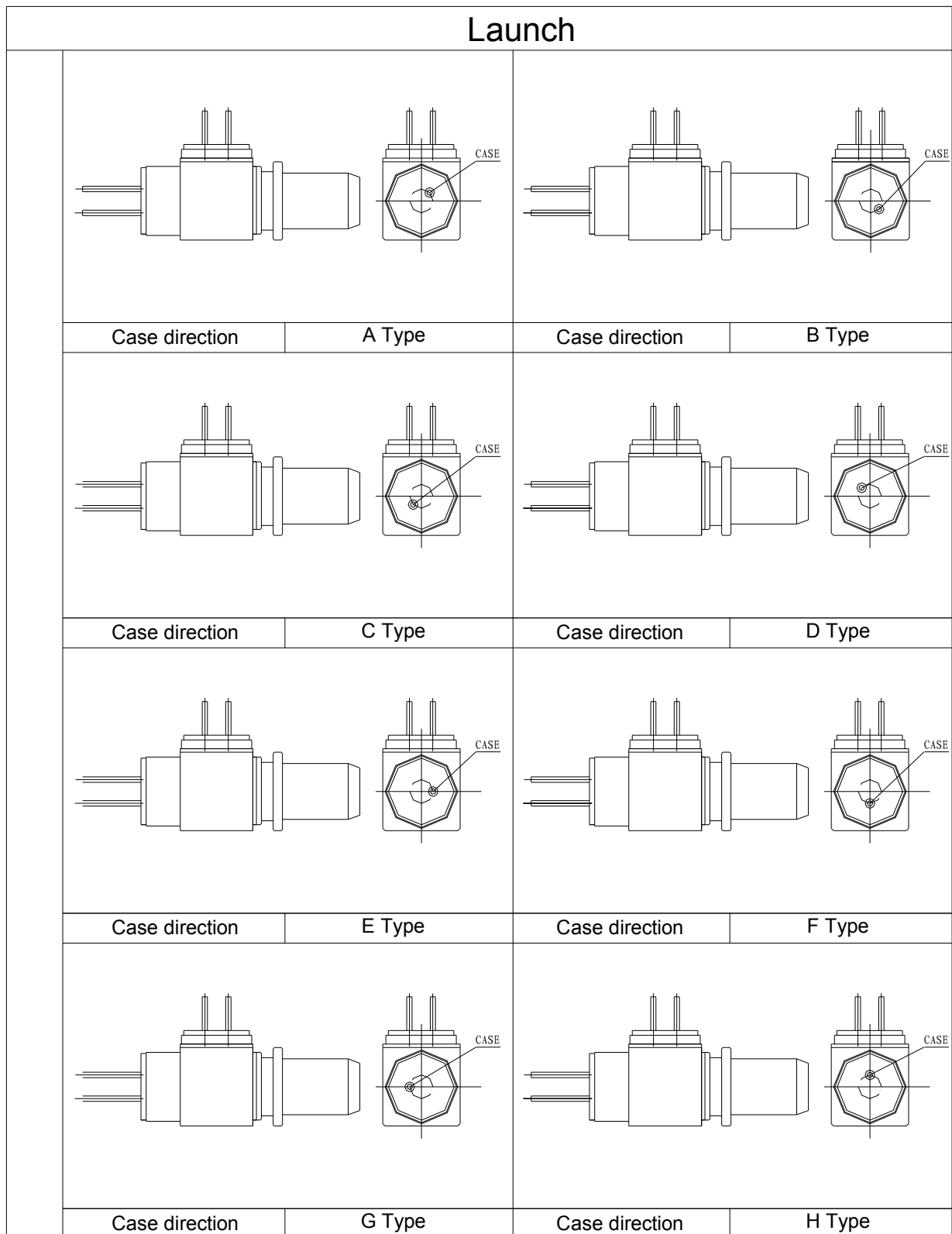
Code:U



Code:D

Note1: PIN direction and laser mark can be customized.

TX Pin Order Code: \*Note2. 3. 4

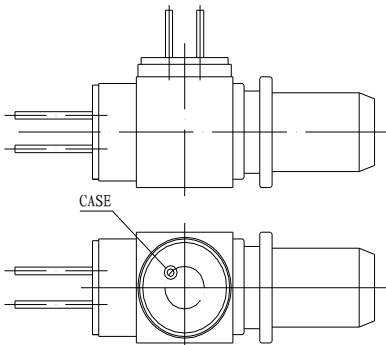
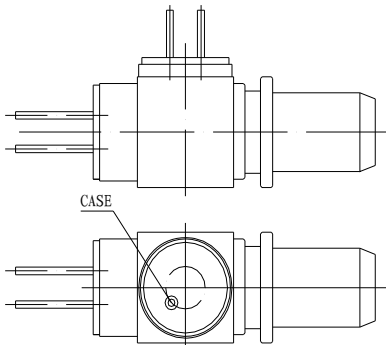
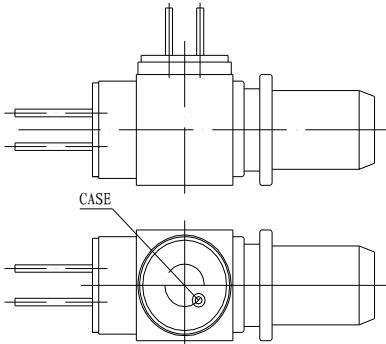
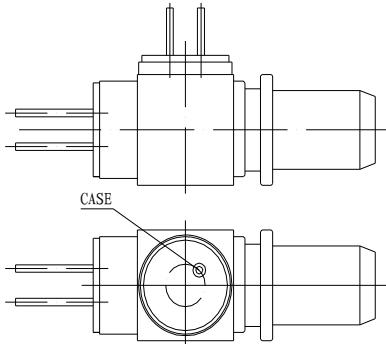
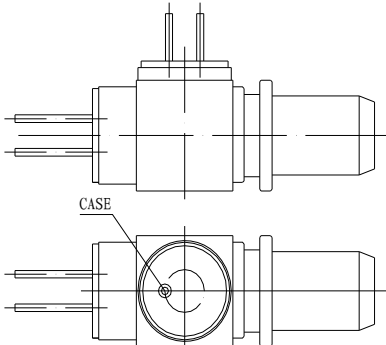
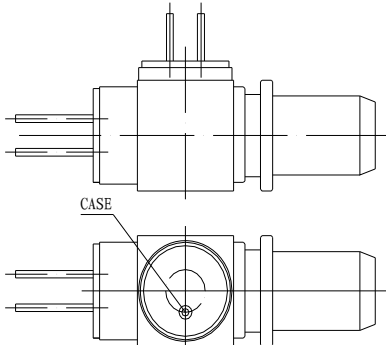
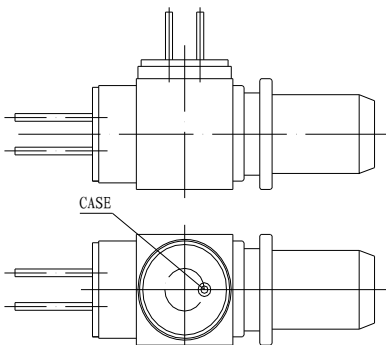
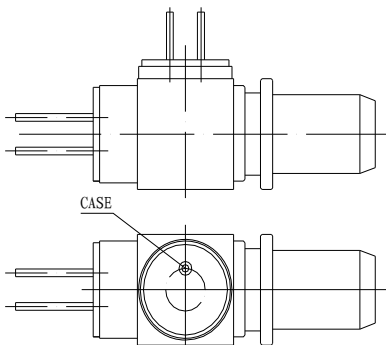


Note2: This picture is for pluggable, pigtail BIDI chip PIN package direction's reference

Note3: This picture is suitable for RX Pin direction comparison.

Note4: 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			
			
Case direction	A Type	Case direction	B Type
			
Case direction	C Type	Case direction	D Type
			
Case direction	E Type	Case direction	F Type
			
Case direction	G Type	Case direction	H Type



**Ordering Information: (Standard version) <sup>\*Note5</sup>**

Part No	Connector type	Transmitter/Receiver
HEBIDI-3205530EUAA	1×5ST	13T/15R
HEBIDI-3205530FDAA	1×5FC	13T/15R
HEBIDI-3205530MUAA	1×9FC	13T/15R
HEBIDI-3205530WDAA	1×9ST	13T/15R

Note5: 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 O

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	05=0.2~0.99mW							
E	Receiver Wavelength	5=1550nm							
F	Receiver Data rate	3=155M	5=622M	7=1.25G	9=2.5G				
G	Receiver Voltage	0=3.3/5V		3=3V		5=5V			
H	Connector	E=1×5ST	F=1×5FC	M=1×9FC		W=1×9ST			
I	RX Direction Code	U=UP				D=DOWN			
J	TX Pin Package Direction	A	B	C	D	E	F	G	H
K	RX Pin Package Direction	A	B	C	D	E	F	G	H
L	RX TO Insulated With Shell	Blank= Insulation				N=NO Insulation			
M	Isolator	Blank=None				G=with I			

**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.

**Notice:**

HighEasy reserves the right to make changes or discontinue any product or service identified in this publication, without notice, in order to improve design and/or performance. Applications that are described herein for any of the products are for illustrative purposes only. HighEasy makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.