

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

HEBIDI-5205x3xxAxxxxx (1x5 &amp; 1x9)

**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-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/2000M

**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	10	V
Monitor PD Reverse Current (PD)	IrP	2	mA
PD Reverse Voltage	Vpd	15	V
TIA Supply Voltage	Vcc	3.3	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)

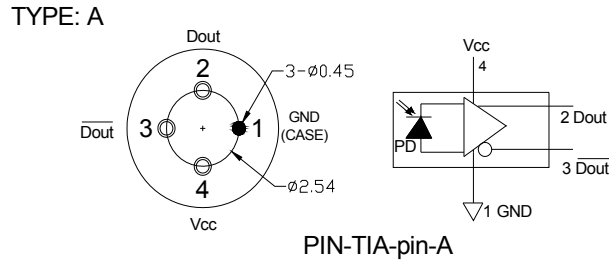
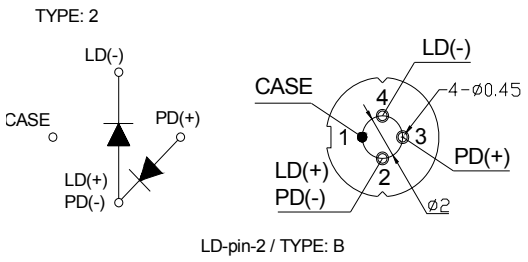
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Threshold Current	I <sub>th</sub>	—	11	15	mA	CW, T=25°C
		—	—	35		CW, T=0~85°C
Output Power	P <sub>f</sub>	0.2	—	0.99	mW	CW, I <sub>f</sub> =I <sub>th</sub> +20mA
Operating Voltage	V <sub>f</sub>	—	1.2	1.5	V	CW, I <sub>f</sub> =I <sub>th</sub> +20mA
Slope Efficiency	S <sub>e</sub>	0.01	0.025	0.05	mW/mA	CW, I <sub>f</sub> =I <sub>th</sub> +20mA
Peak Wavelength	λ <sub>p</sub>	1530	1550	1570	nm	CW, I <sub>f</sub> =I <sub>th</sub> +20mA
Spectral Width(RMS)	Δλ	—	—	3	nm	CW, I <sub>f</sub> =I <sub>th</sub> +20mA
Rise Time/Fall Time	tr/ta	---	---	120	ps	CW, 20~80%
Tracking Error	ΔP <sub>f</sub>	-1.5	---	1.5	dB	APC, -20°C/+85°C
Monitor Current	I <sub>m</sub>	0.1	—	—	mA	CW, I <sub>f</sub> =I <sub>th</sub> +20mA, V <sub>rP</sub> =1V
Dark Current	I <sub>d</sub>	—	—	0.1	uA	P <sub>oc</sub> =0, V <sub>rP</sub> =1.7V
PD Capacitance	C	—	10	20	pF	V <sub>rP</sub> =5V@1MHz

### Electrical / Optical Specifications – Receiver:

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

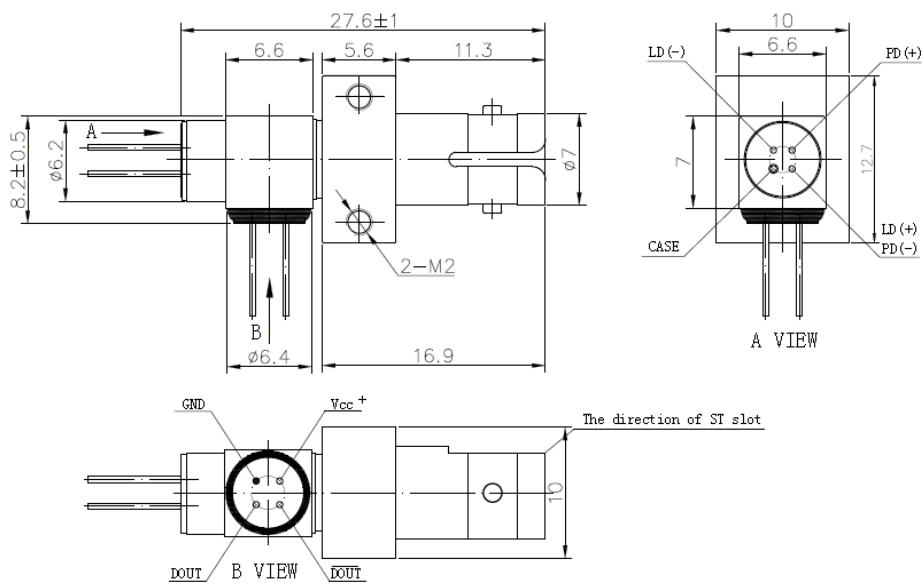
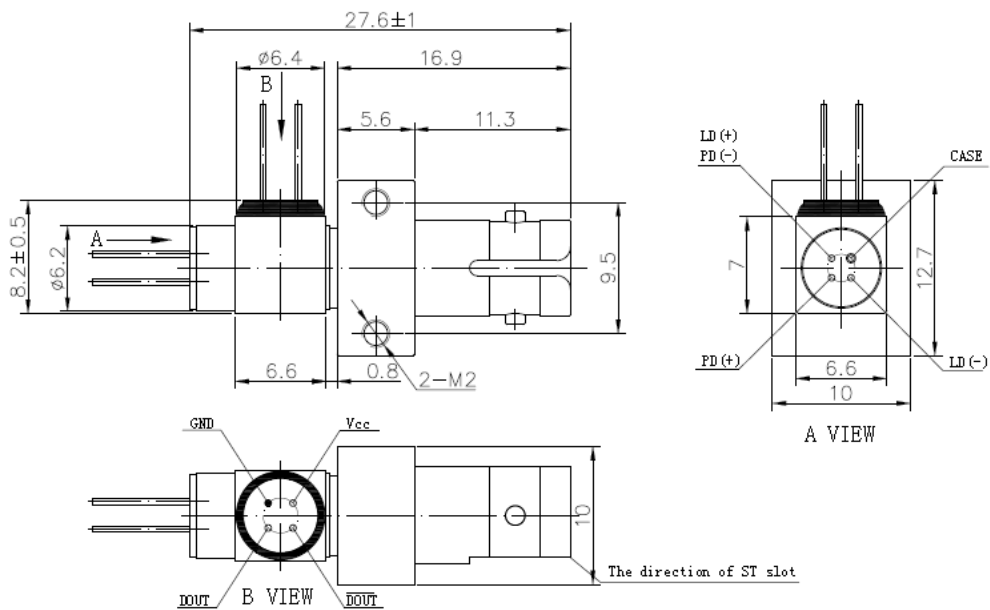
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Operating Wavelength	λ	1255	1310	1360	nm	
Supply Voltage	V <sub>cc</sub>	3.0	3.3	3.6	V	
Supply Current	I <sub>cc</sub>	20	—	59	mA	V <sub>cc</sub> =3.3V
Saturation Power	P <sub>sat</sub>	-3	0	—	dBm	
Sensitivity	S <sub>en</sub>	—	-37	-35	dBm	λ=1310nm, 155M, RBS=2 <sup>7</sup> -1, BER=10 <sup>-10</sup> .
		—	-32	-31	dBm	λ=1310nm, 622M, RBS=2 <sup>23</sup> -1, BER=10 <sup>-10</sup> .
		—	-28	-27	dBm	λ=1310nm, 1.25G, RBS=2 <sup>7</sup> -1, BER=10 <sup>-10</sup> .
		—	-24	-22	dBm	λ=1310nm, 2.5G, RBS=2 <sup>23</sup> -1, BER=10 <sup>-10</sup> .

**Pin Assignment:**

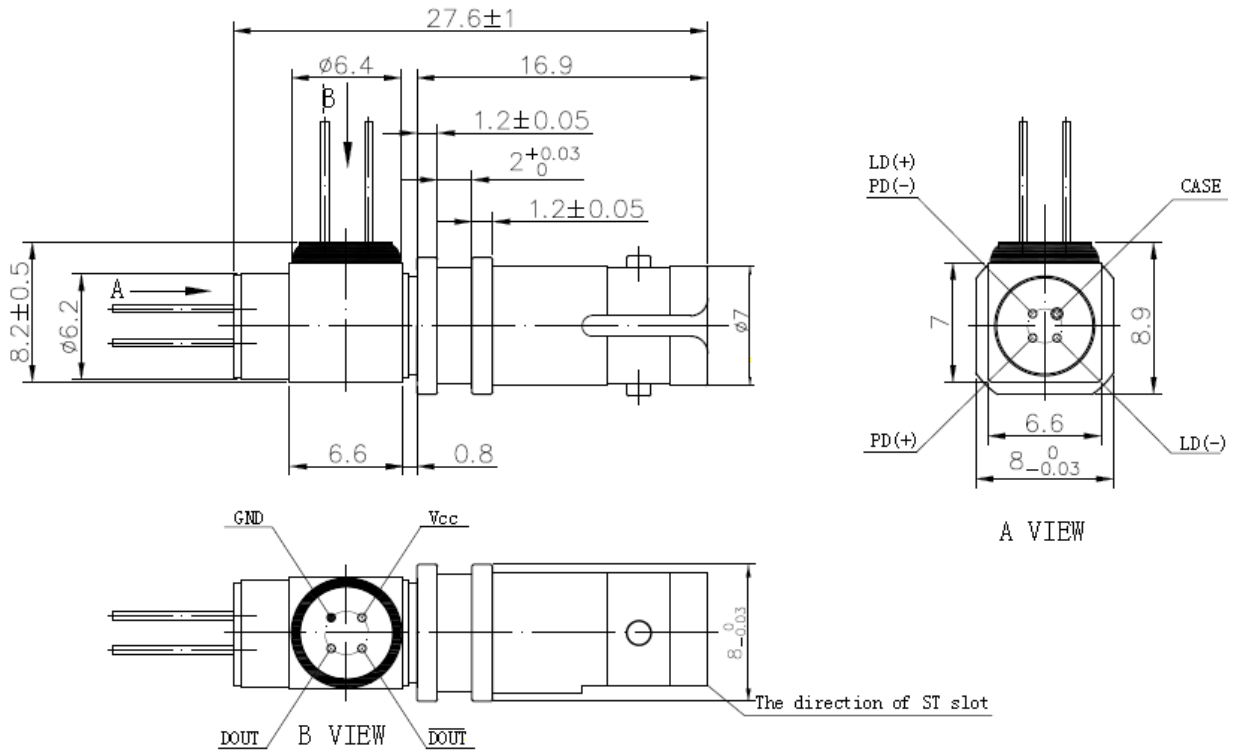


**Package Dimension:** \*Note1

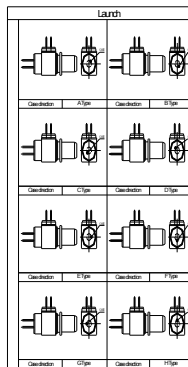
**1x5 ST**



1x9 ST

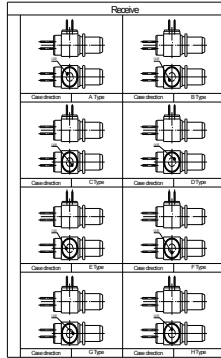


Code:U

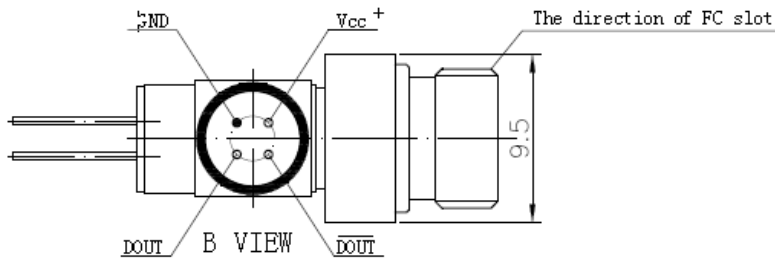
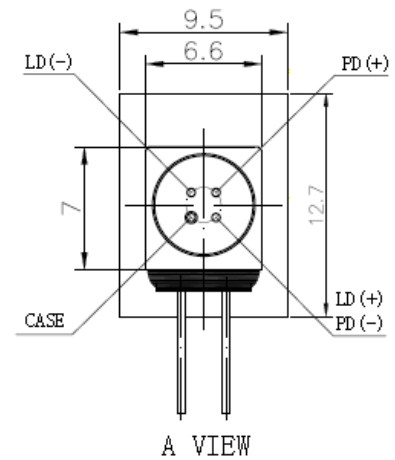
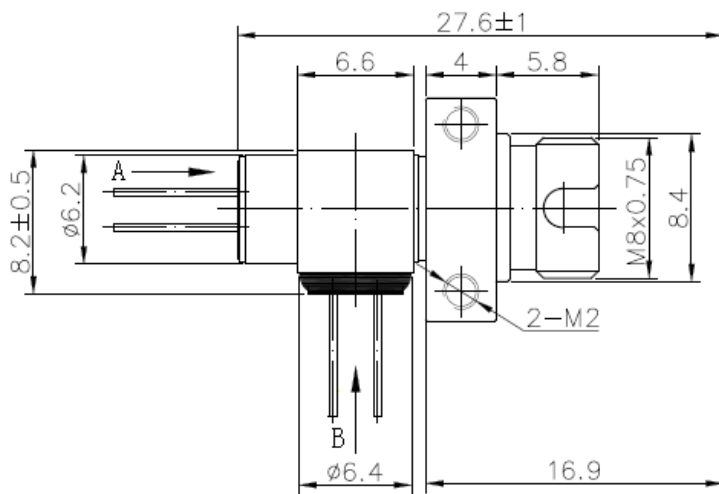


Code:D

1x5 FC

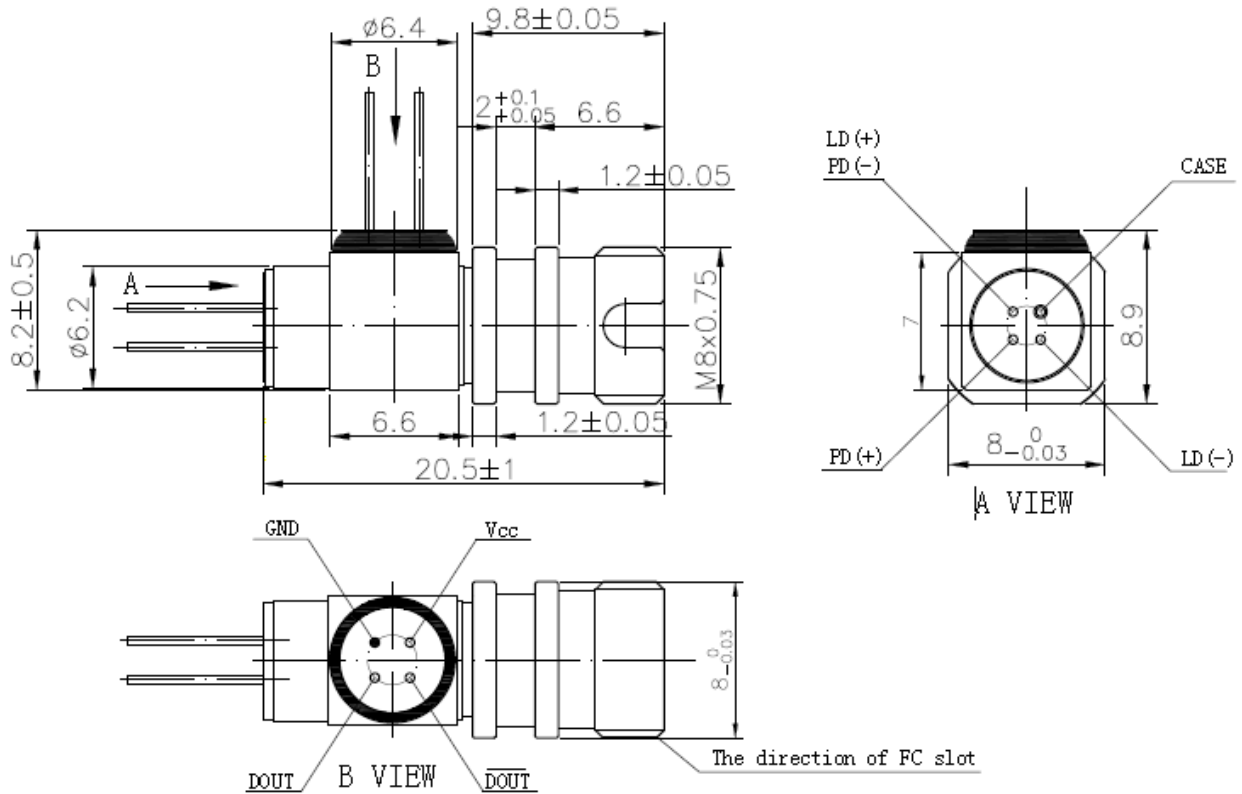


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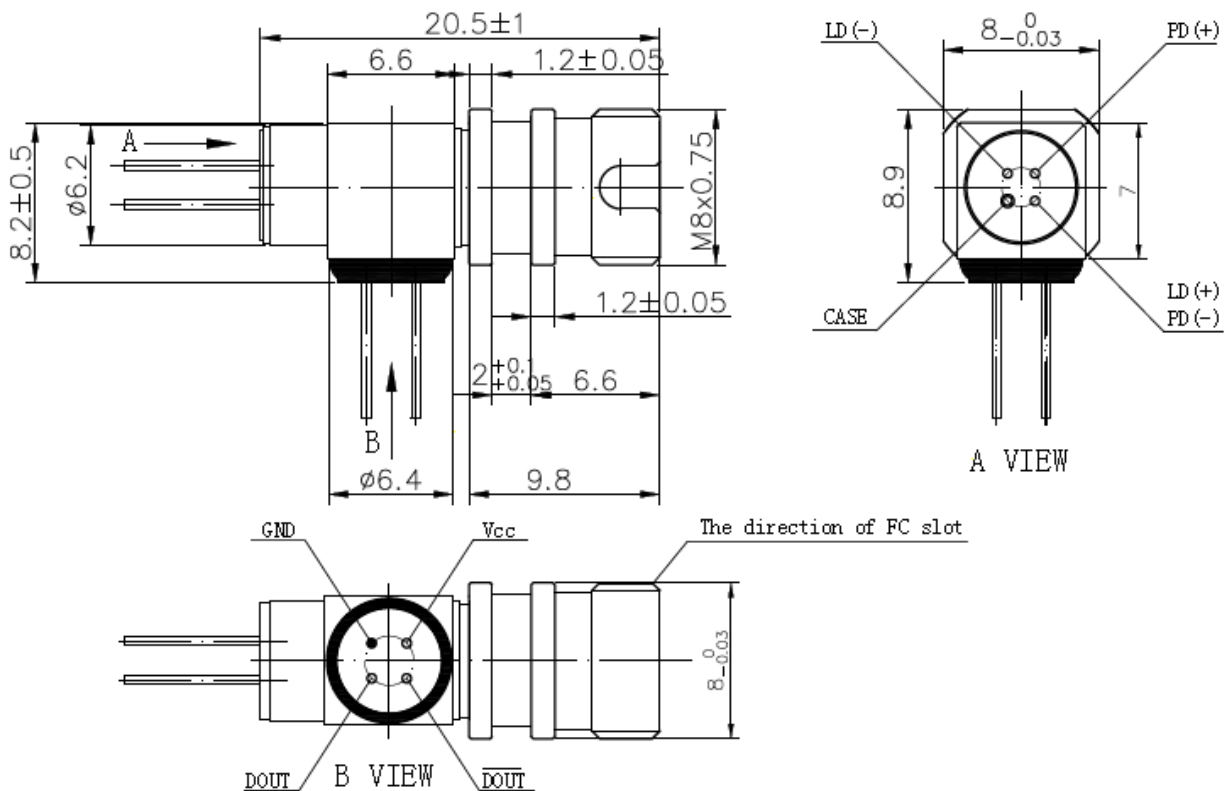


Code:D

1x9 FC



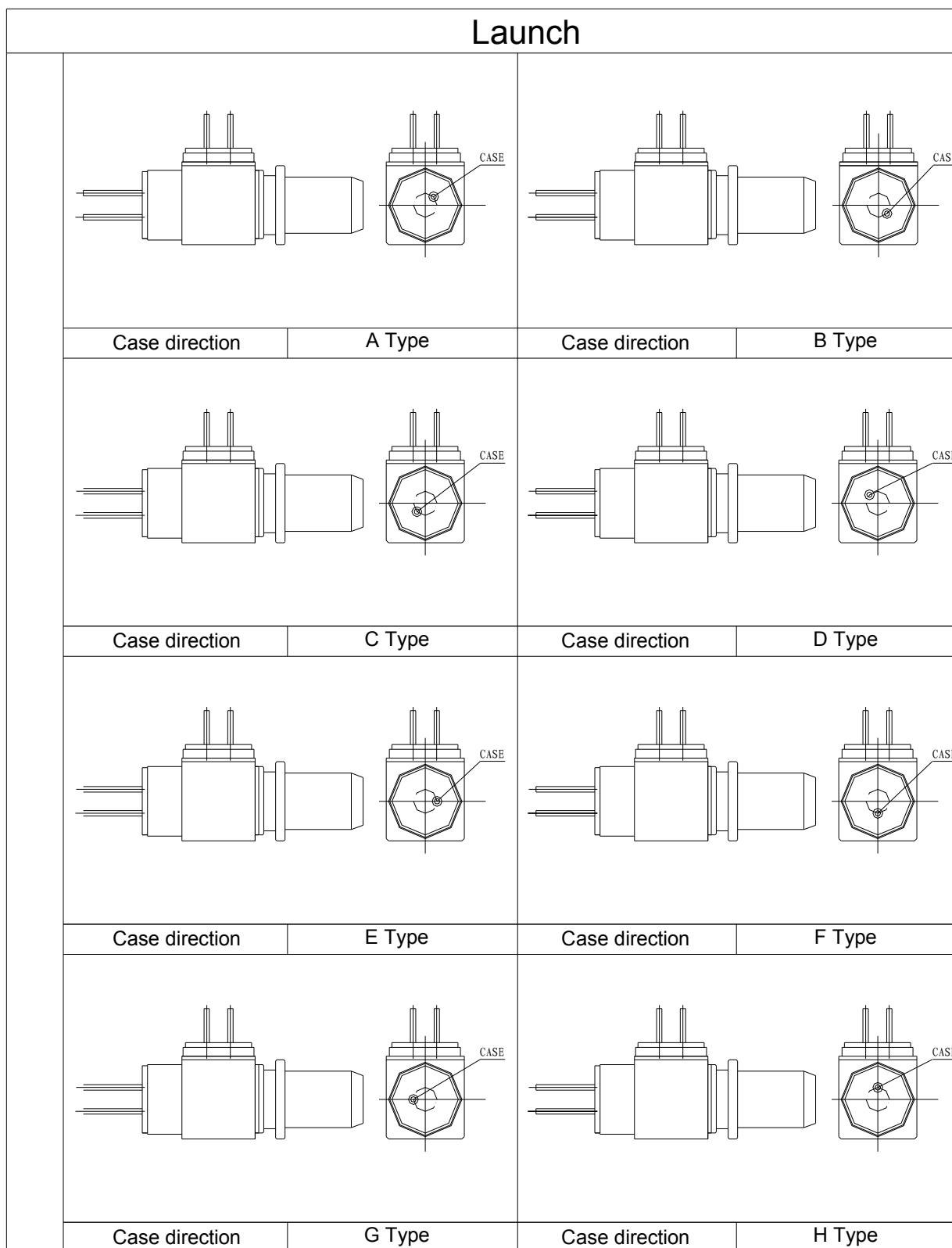
Code:U



Code:D

Note1: PIN direction and laser mark can be customized.

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

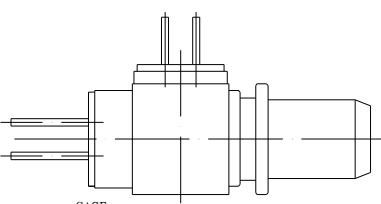
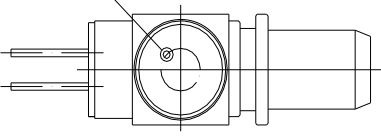
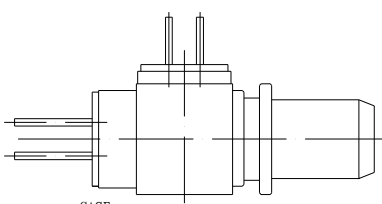
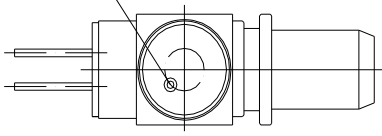
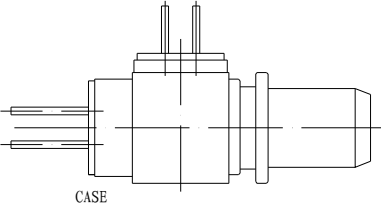
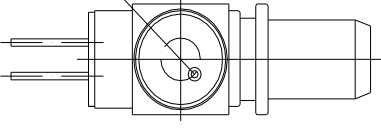
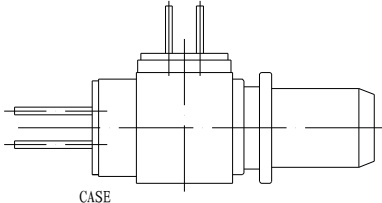
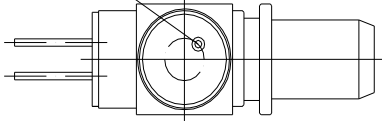
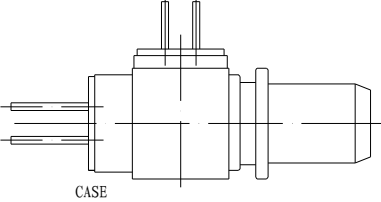
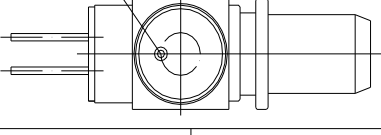
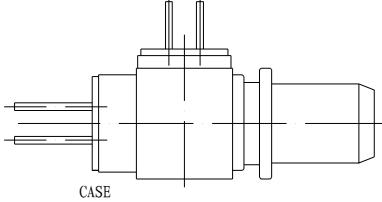
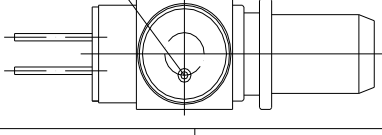
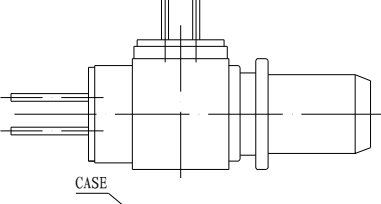
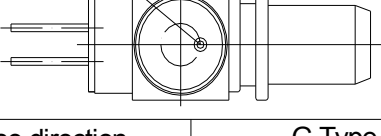
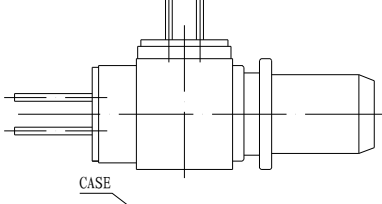
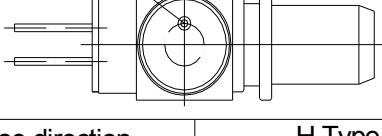


Note2: This picture is for pluggable, pigtail BIDI chip PIN package direction's reference.

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				
 		 	<b>A Type</b>	<b>B Type</b>
Case direction		Case direction		
 		 		
Case direction		Case direction		
 		 		
Case direction		Case direction		
 		 		
Case direction		Case direction		
	<b>G Type</b>		<b>H Type</b>	



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

Part No	Connector type	Transmitter/Receiver
HEBIDI-5205373AEUAA	1x5ST	FP 1550T/1310R 1.25G
HEBIDI-5205373AFDAA	1x5FC	FP 1550T/1310R 1.25G
HEBIDI-5205330AMUAA	1x9FC	FP 1550T/1310R 155M
HEBIDI-5205330AWDAA	1x9ST	FP 1550T/1310R 155M

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

Code	Parameter	Detailed Description							
A	Laser Type	BLANK=FP LD		D=DFB LD					
B	Launch Wavelength	5=1550nm							
C	Launch Data Rate	1=1.25G		2=2.5G					
D	Output Power	05=0.2~0.99mW							
E	TX Pin Type	2=LD-pin-2							
F	Receiver Wavelength	3=1310nm							
G	Receiver Data Rate	3=155M	5=622M	7=1.25G	9=2.5G				
H	Receiver Voltage	0=3.3/5V		3=3V	5=5V				
I	RX Pin Type	A=PIN-TIA-pin-A							
J	Connector	E=1x5ST	F=1x5FC	M=1x9FC	W=1x9ST				
K	RX Direction Code	U=UP			D=DOWN				
L	TX Pin Package Direction	A	B	C	D	E	F	G	H
M	RX Pin Package Direction	A	B	C	D	E	F	G	H
N	RX TO Insulated With Shell	Blank= Insulation			N=NO Insulation				

**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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