

## 1550TX DFB 1310RX PD BOSA 1.5GHz CATV Transmission

**Features:**

- ◆ Coaxial Package
- ◆ InGaAsP/InP MQW-DFB Laser Diode
- ◆ Low threshold, high slope efficiency and high output power
- ◆ Operating Case Temperature:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- ◆ Single-mode fiber pigtailed with SC FC ST or LC connector
- ◆ High channel isolation
- ◆ Low return loss
- ◆ Optical with Isolator

**Applications:**

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

**Absolute Maximum Ratings:**

Parameter	Symbol	Ratings	Unit
Storage Temperature	Tstg	$-40\sim+85$	$^{\circ}\text{C}$
Operating Case Temperature	Top	$-40\sim+85$	$^{\circ}\text{C}$
Operation Relative Humidity		85	%
Forward Current (LD)	IFD	150	mA
Monitor PD Reverse Voltage (LD)	VrL	2	V
Monitor PD Reverse Voltage (PD)	VrP	20	V
Monitor PD Reverse Current (PD)	IrP	2	mA
PD Forward Current	$I_{FD}$	10	mA
PD Reverse Voltage	Vpd	50	V
Soldering Temperature (<10s)	Stemp	260	$^{\circ}\text{C}$

### Electrical and Optical Characteristics – Transmitter:

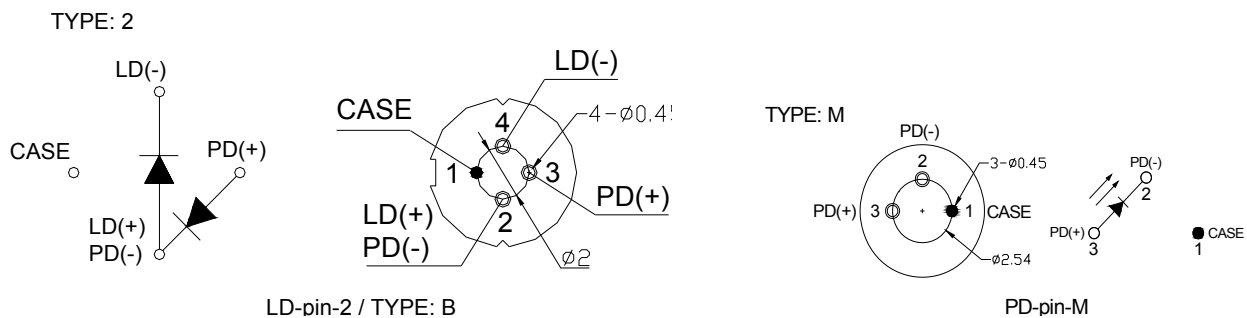
(If=lth+20mA, Pf=1mW, SMF (9.5/125μm), Tc=+25+/-2°C, unless otherwise noted.)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current	Ith	CW	—	8	15	mA
Output Power (After coupled)	Pf	CW, If=lth+20mA	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	1530	1550	1570	nm
Rise and Fall Time	tr,tf	Ib=lth, PL=1.5mW, 20~80%	—	—	0.15	ns
Monitor Current (PD)	Im	CW, PL=1.5mW, VRD=1V	100	200	—	uA
Dark Current (PD)	Id	VRD=5V	—	—	10	nA
Capacitance (PD)	Ct	VRD=10V, f=1MHz	—	10	20	pF
Connector Repeatability	—	—	-1	—	1	dB
Wavelength Isolation	—	—	15	—	—	dB
Optical Isolation	—	Single Stage	30	—	—	dB
	—	Dual Stage	40	—	—	

### Electrical / Optical Specifications – Receiver:

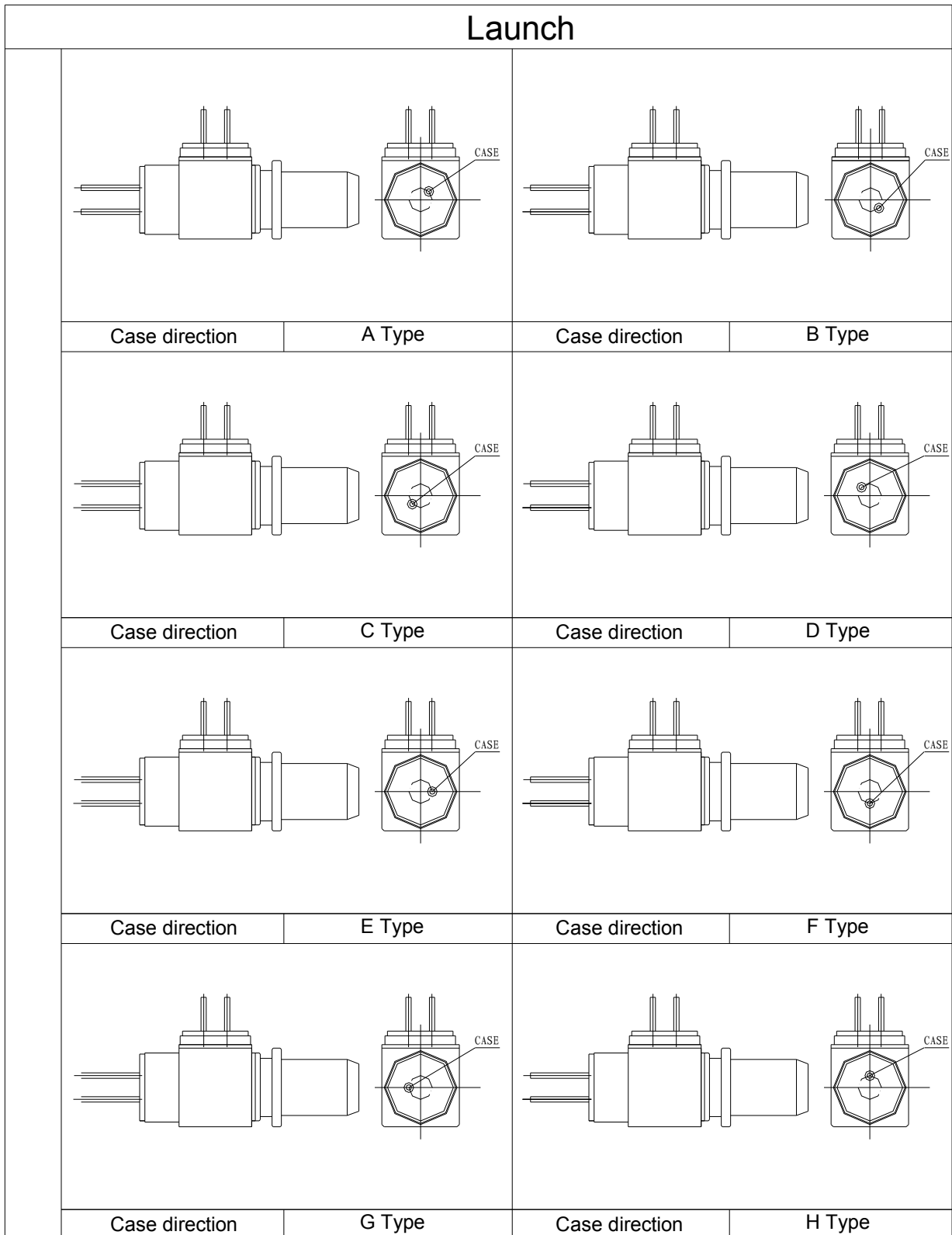
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Detection Wavelength Range	λ	-	1260		1575	nm
Active Diameter	DA	-	—	75	—	μm
Responsivity	R	VR=-5V@1310nm	—	0.80	—	A/W
		VR=-5V@1550nm	—	0.85	—	A/W
Return Loss	RL		—	-50	—	dB
Dark Current	Id	VR = 5V	—	0.1	1	nA
Capacitance	Cp	VR = 5V	—	0.6	0.7	pF
Bandwidth	BW	VR=5V	2	—	—	GHz

### Pin Assignment:





**TX Pin Order Code:** \*Note2.3.4

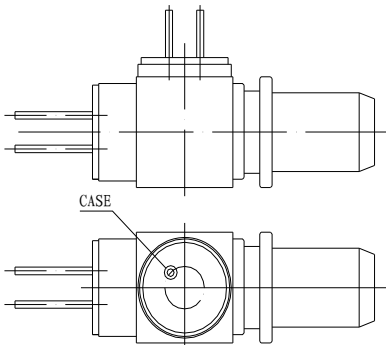
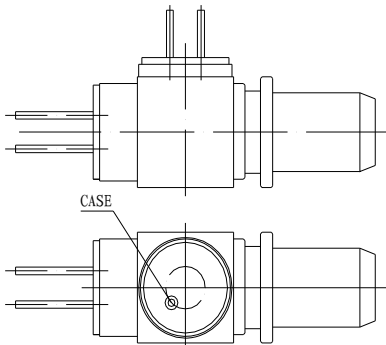
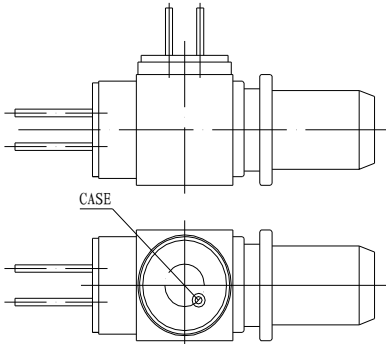
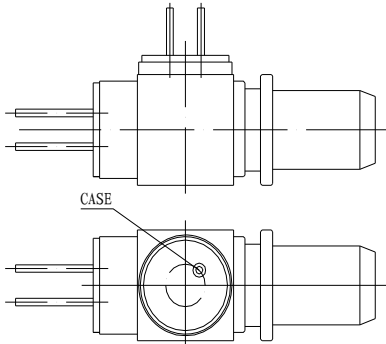
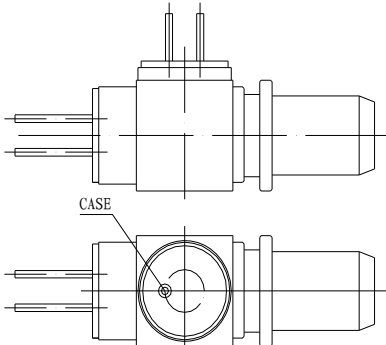
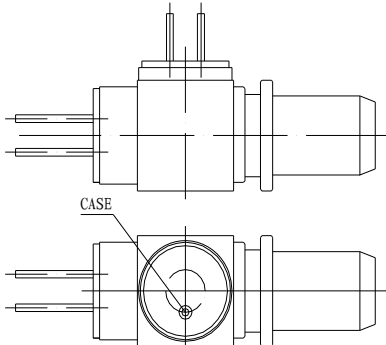
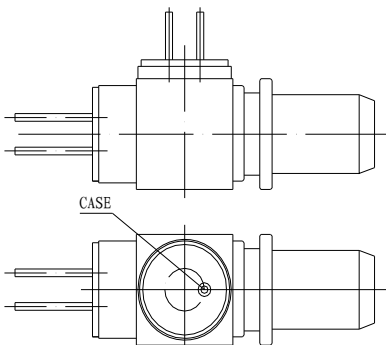
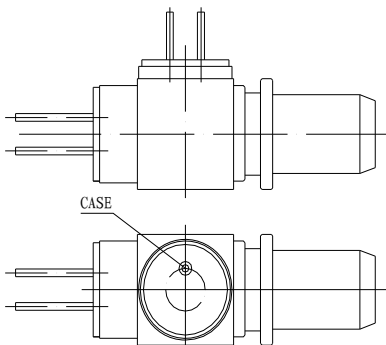


Note2、 This picture is for pluggable, pigtail BIDI chip PIN package direction's reference.

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

