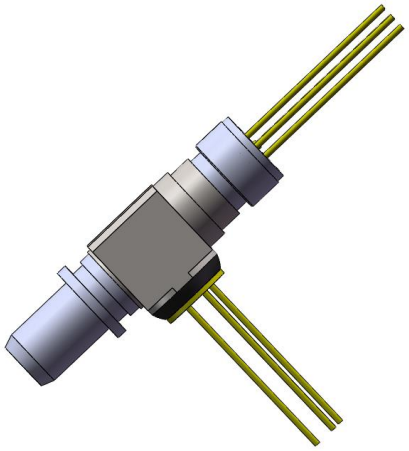
ETRRDATxxFxWT3FxxxG

With 1270nm 10G DFB laser diode and 1577nm 10G APD-TIA transmission



Features

- Coaxial package
- InGaAsP/InP MQW-DFB laser diode
- Low threshold, high slope efficiency and high output power
- High sensitive APD-TIA
- ROHS compliant products available

Applications

- 10GbE application
- symmetry 10G EPON ONU

Performance specification

Absolute maximum ratings(Tc=25℃,unless otherwise noted) *Note1

Parameter	Symbol	Min.	Max.	Unit
Storage temperature	Tstg	-40	85	℃
Operating case temperature	Topr	-40	85	℃
Storage and operating humidity	--	--	85	%
LD reverse voltage	V_{RL}	--	2	V
LD forward current	I_{FL}	--	120	mA
LD optical output power	P_O	--	10	dBm
MPD reverse voltage	V_{RD}	--	6	V
MPD forward current	I_{FD}	--	1	mA

APD supply voltage	V_{apd}	--	Vbr	V
APD forward current	I_{FD}	--	2	mA
APD reverse current	I_{FD}	--	2	mA
TIA supply voltage	V_{CC}	-0.7	5	V
Lead soldering (temperature)/(time)	--	--	260/10	℃/Sec

*Note1: Exceeding any one of these values may destroy the device immediately.

Transmitter optical and electrical characteristics

(Unless specified else,the specifications below are defined at Tc=25℃)

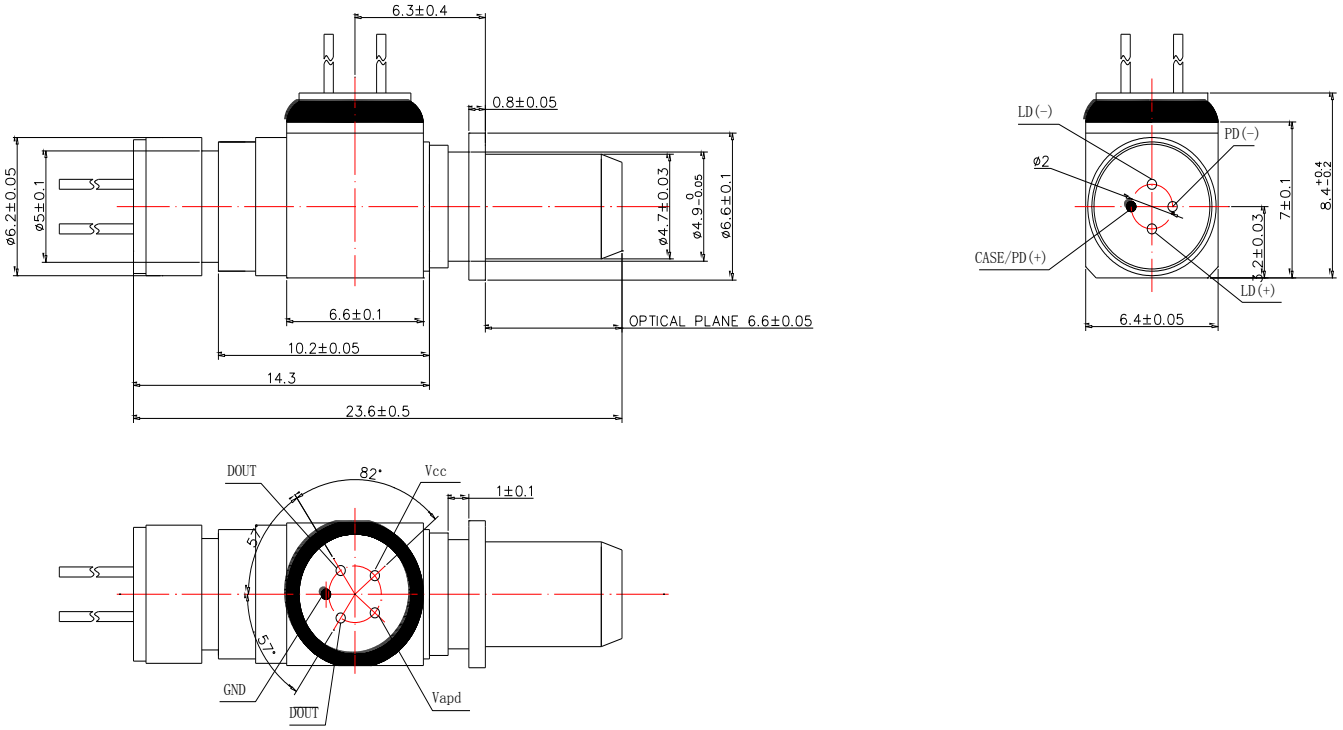
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Threshold current	Ith	--	7	10	mA	CW
Laser output optical power	Pf	3.2	--	5	mW	CW, If=Ith+20mA
Slope efficiency	SE	0.16	--	0.25	W/A	CW, If=Ith+20mA
Optical wavelength	λ	1260	1270	1280	nm	CW, If=Ith+20mA
Operating voltage	Vf	--	1.2	1.7	V	CW, If=Ith+20mA
Spectrum width (-20dB)	△λ	--	--	1.0	nm	CW, If=Ith+20mA
Side mode suppression ratio	SMSR	35	40	--	dB	CW, If=Ith+20mA
Monitor current	Im	0.08	--	0.8	mA	CW, If=Ith+20mA
Monitor dark current	Id	--	--	100	nA	Vrp=5V
Tracking Error	TE	-1.5		+1.5	dB	-40~85℃

Receiver optical and electrical characteristics

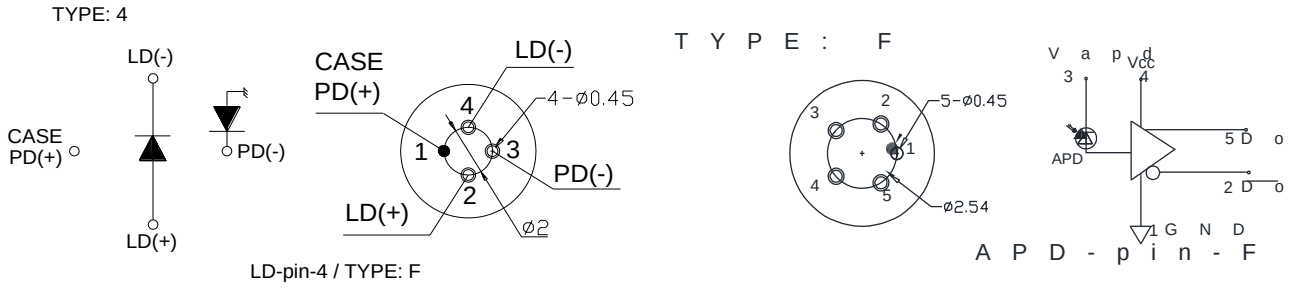
(Unless specified else,the specifications below are defined at Tc=25℃)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Supply voltage	Vcc	3.0	3.3	3.6	V	
Breakdown voltage	Vbr	20	34	40	V	Id=10uA
Dark current	Id	--	--	100	nA	Vop
Receiving wavelength	λ	1575	1577	1580	nm	
Optical sensitivity	S	--	--	-29.5	dBm	λ=1577nm,10.3Gbps, PRBS=2^{31}-1,BER<$10^{-3,}$ NRZ,
Overload power	Pload	-7	--	--	dBm	
TIA supply current	Icc	22	--	50	mA	Vcc=3.3V
Temp. coefficient of V_{br}	γ	0.4		0.6	V/℃	Id=10μA, Φe=0μw-40~+85℃
Optical crosstalk	Xopt	--	--	-40	dB	λ=1260~1510nm &1600~1630nm

Package dimension*Note2



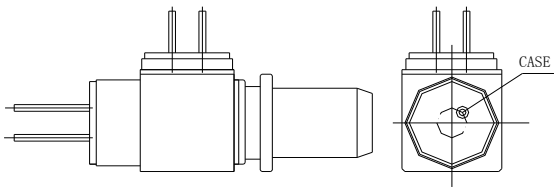
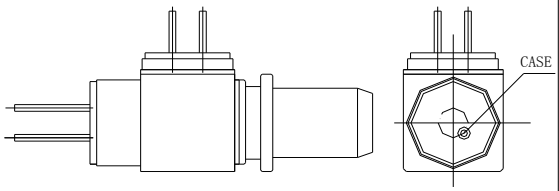
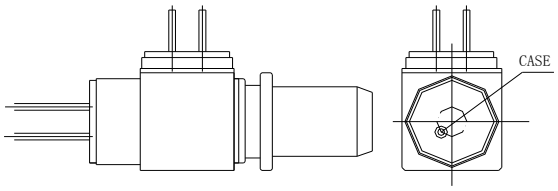
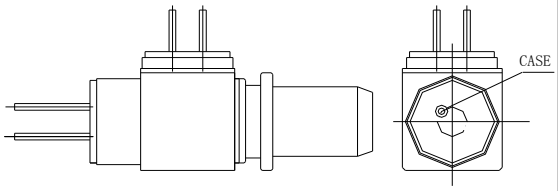
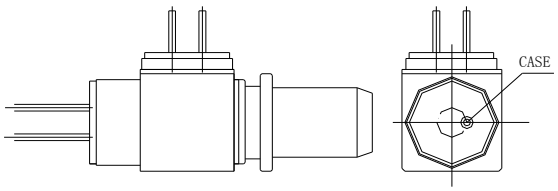
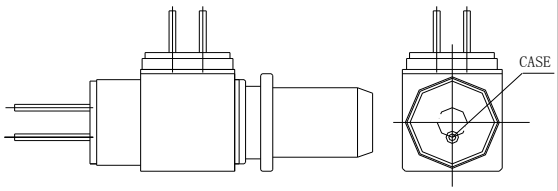
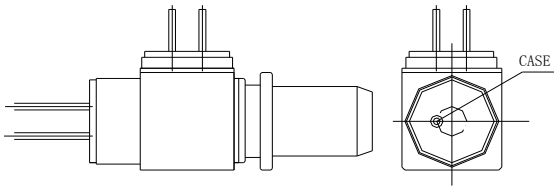
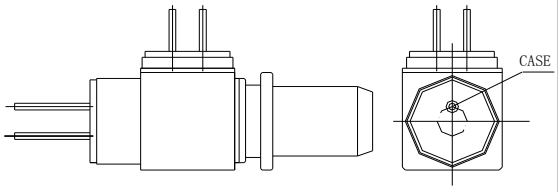
Pin assignment



LD-pin-4 **APD-pin-F**

Note2: PIN direction and laser mark can be customized.

TX pin order code*Note3.4.5

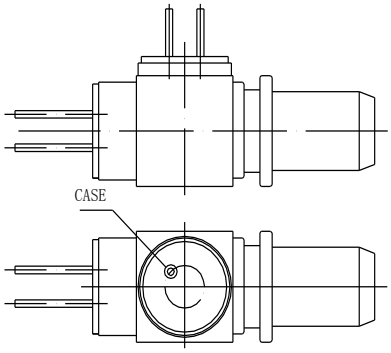
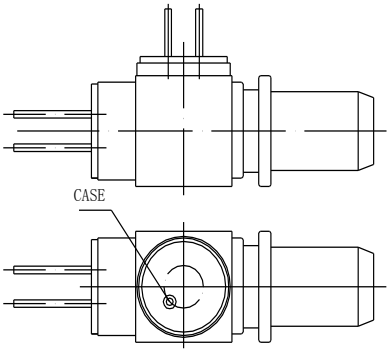
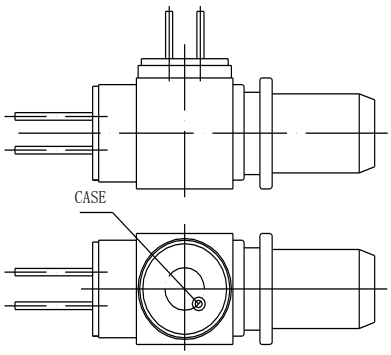
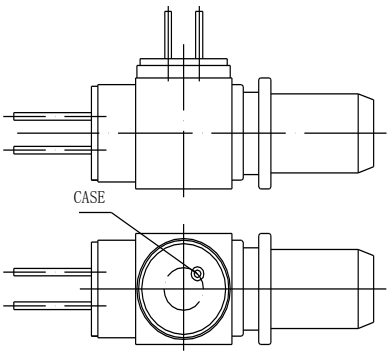
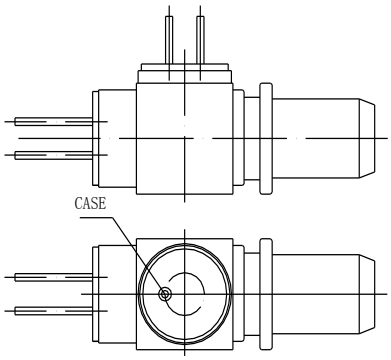
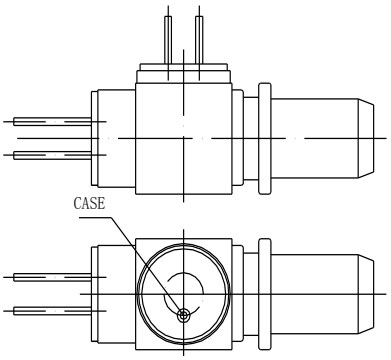
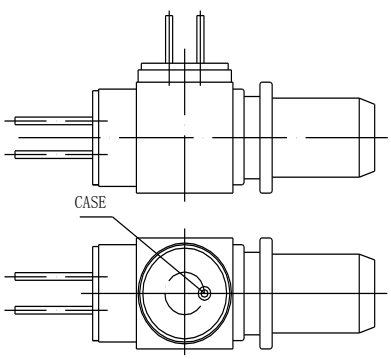
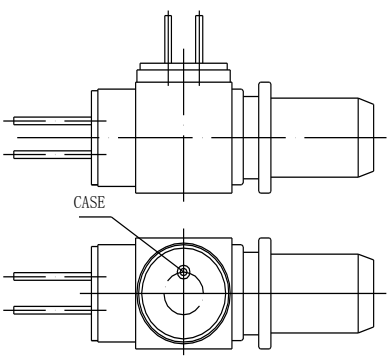
Launch			
			
Case direction	A Type	Case direction	B Type
			
Case direction	C Type	Case direction	D Type
			
Case direction	E Type	Case direction	F Type
			
Case direction	G Type	Case direction	H Type

Note3:This picture is for pluggable, receptacle BIDI chip PIN package direction's reference

Note4:This picture is suitable for RX Pin direction comparison .

Note5:The package direction is described as "×-×" 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) *Note6

Part No	Laser type	transmitter/receiver
ETRRDAT35FxWT3FxxxG	DFB	1270T/1577R

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

ETRR □ □ □ □ □ □ □ □ □ □ □ □ □ □

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

Code	Parameter	Detailed description							
A	Laser type	D=DFB LD							
B	Launch wavelength	A=1270nm							
C	Launch data rate	T=10Gbps							
D	Output power	35=3.2~5mW				xx=Customization			
E	TX pin type	F=LD-pin-4							
F	TX chip type	x=A~Z(No choice)							
G	Receiver wavelength	W=1577nm							
H	Receiver data rate	T=10Gbps							
I	TIA voltage	3=3.3V							
J	RX pin type	F=APD-TIA-pin-F							
K	RX chip type	x=A~Z(No choice)							
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	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.

Obtaining document

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http://www.eoptolink.com

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

Revision history

Revision	Initiated	Reviewed	Approved	Revision history	Release date
Va-1	James.liu	Zore.Zhao Kelly.cao		Initial	2019-11-09

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