

ETRPD32xxxLx3Fxxxxxx

With 1310nm MQW-DFB WDM Laser Diode and 1490nm 1.25G~2.5G APD-TIA transmission

Features

- ◆ Coaxial Package
- ◆ InGaAsP/InP MQW-DFB 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
- ◆ Low return loss
- ◆ Optional with Isolator



Applications

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

Absolute maximum ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	Tstg	-40	100	°C
Operating Case Temperature	Topr	-40	85	°C
Reverse Voltage(LD)	VRLD	---	2	V
Reverse Voltage(MPD)	VRMPD	---	20	V
Forward Current(MPD)	IFMPD	---	2	mA
APD Forward Current	IFAPD	---	1.5	mA
APD Reverse Current	IRAPD	---	1	mA
APD Reverse Voltage	VRAPD	---	Vbr	V
TIA Supply Voltage	VCC	-0.7	5.0	V
Lead Soldering (Temperature)/(Time)	---	---	260/10	°C/Sec

Electrical and optical characteristics - Transmitter

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

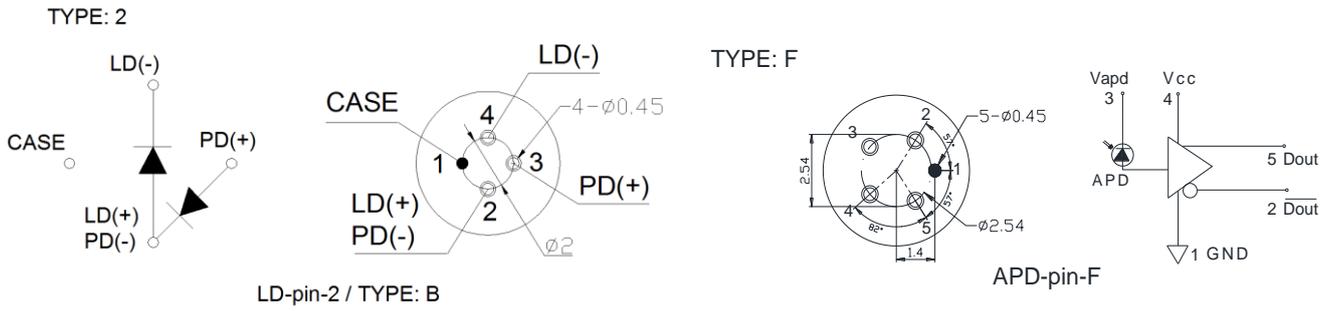
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Threshold current	I _{th}	—	8	15	mA	CW,T=25°C
		—	30	50		CW,T=85°C
Output Power	P _o	0.2	—	2.99	mW	CW, I _f =I _{th} +20mA
Operating voltage	V _f	—	1.1	1.5	V	CW, I _f =I _{th} +20mA
Slope efficiency	S _e	0.01	—	0.15	mW/mA	CW, I _f =I _{th} +20mA
Side Mode Suppression Ratio	SMSR	30	40	—	dB	CW,I _f =I _{th} +20mA
Peak wavelength	λ _c	1290	1310	1330	nm	CW,I _f =I _{th} +20mA
Spectral Width(-20dB)	Δλ	—	0.32	1	nm	CW,I _f =I _{th} +20mA
Rise time/Fall time	tr/ta	—	150	—	ps	CW,20~80%
Tracking error	ΔP _f	-1.5	—	1.5	dB	APC,-20°C/+85°C
Monitor current	I _m	0.1	0.6	1	mA	CW, I _f =I _{th} +20mA,V _{rP} =1V
Monitor dark current	I _d	—	—	0.1	uA	CW,V _{rP} =5V
Monitor PD Capacitance	C		10	20	pF	V _R =5V,f=1MHz
Isolation	I _{so}	30	—		dB	—

Electrical / Optical Specifications - Receiver

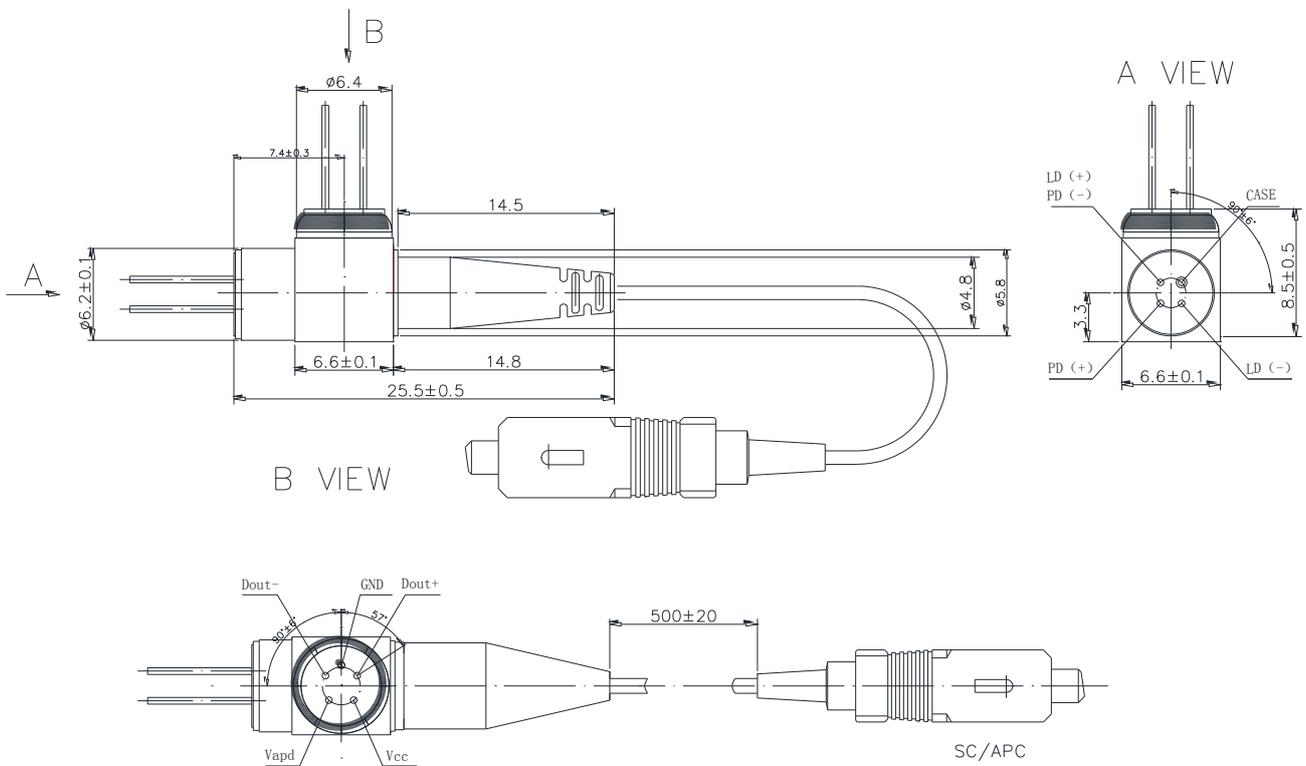
(Unless specified else,the specifications below are defined at Tc=25°C,SMF)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Operating Wavelength	λ	1470	1490	1510	nm	
Power supply	I _{cc}	—	—	60	mA	
TIA supply Voltage	V _{CC}	3.0	3.3	3.6	V	
APD Breakdown Voltage	V _{br}	35	45	56	V	I _d = 10uA
APD Operating Voltage	V _{APD}	0.9*V _{br}			V _{br}	
Sensitivity	Sen	—	-32	-29	dBm	PRBS2 ²³ -1,BER=10 ⁻¹⁰ 2.5Gbps,ER=7dB
	Sen	—	-32	-29	dBm	PRBS2 ⁷ -1,BER=10 ⁻¹² 1.25Gbps,ER=10dB
Saturation Power	P _{sat}	-7	—	—	dBm	PRBS2 ⁷ -1,BER=10 ⁻¹⁰ 2.5Gbps,ER=7dB

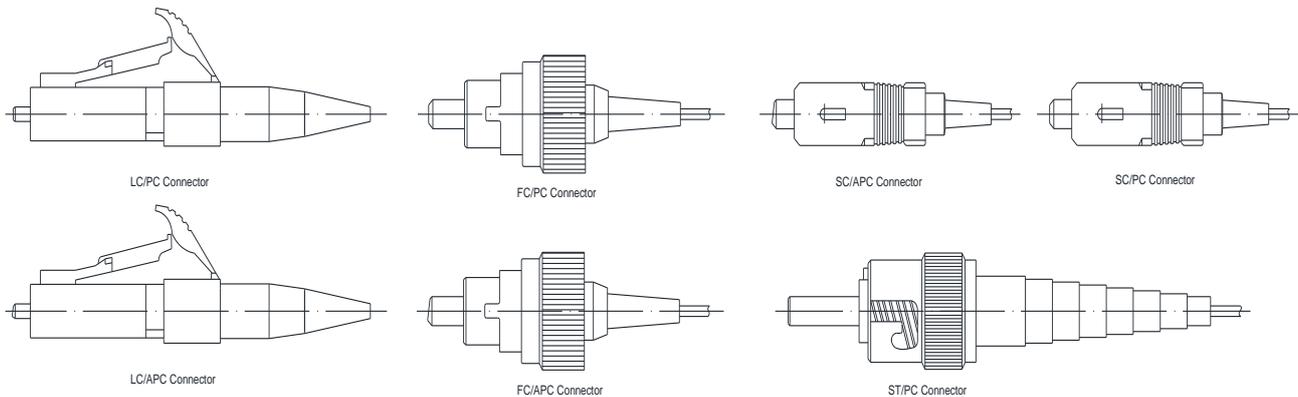
Pin Assignment



Pigtail Package series



Connector



TX Pin Order Code*Note1.2.3

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

Note1. This picture is for pluggable, pigtail BIDI chip PIN package direction's reference

Note2. This picture is suitable for RX Pin direction comparison .

Note3. 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

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Revision History

Verision	Initiated	Reviewed	Approved	Revision History	Release Date
Va-1	George.Zhong hanks.du	Kelly.cao Zore.Zhao		The initial	2015-12-02
Va-2	George.Zhong hanks.du	Kelly.cao Zore.Zhao		Size correction RX pin correction	2016-01-15

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