

## ETRPD42xxx3x3Fxxxxxx

With 1490nm MQW-DFB WDM Laser Diode and 1310nm 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)

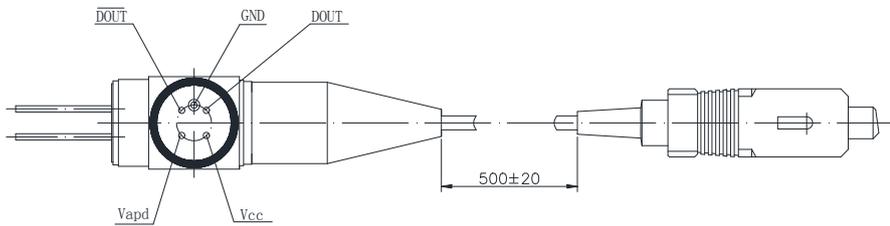
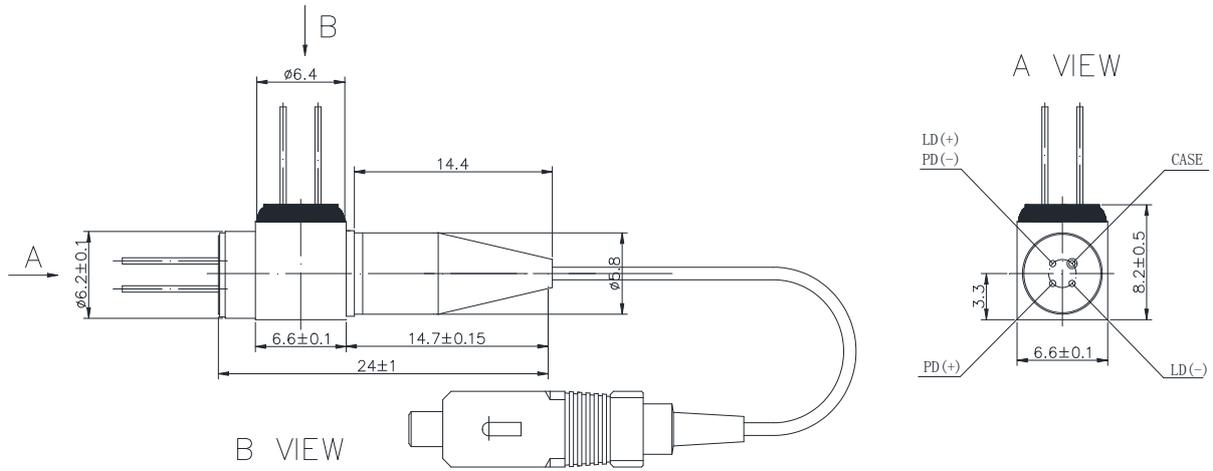
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Threshold current	I <sub>th</sub>	—	8	15	mA	CW,T=25°C
		—	30	50		CW,T=85°C
Output Power	P <sub>o</sub>	0.2	—	2.99	mW	CW, I <sub>f</sub> =I <sub>th</sub> +20mA
Operating voltage	V <sub>f</sub>	—	1.1	1.5	V	CW, I <sub>f</sub> =I <sub>th</sub> +20mA
Slope efficiency	S <sub>e</sub>	0.01	—	0.15	mW/mA	CW, I <sub>f</sub> =I <sub>th</sub> +20mA
Side Mode Suppression Ratio	SMSR	35	40	—	dB	CW,I <sub>f</sub> =I <sub>th</sub> +20mA
Peak wavelength	λ <sub>c</sub>	1470	1490	1510	nm	CW,I <sub>f</sub> =I <sub>th</sub> +20mA
Spectral Width(-20dB)	Δλ	—	0.32	1	nm	CW,I <sub>f</sub> =I <sub>th</sub> +20mA
Rise time/Fall time	tr/ta	—	80	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>	0.3	0.6	2	mA	CW, I <sub>f</sub> =I <sub>th</sub> +20mA,V <sub>rP</sub> =1V
Monitor dark current	I <sub>d</sub>	—	—	0.1	uA	CW,V <sub>rP</sub> =5V
Monitor PD Capacitance	C		10	20	pF	VR=5V,f=1MHz
Isolation	I <sub>so</sub>	30	—		dB	—

## Electrical / Optical Specifications - Receiver

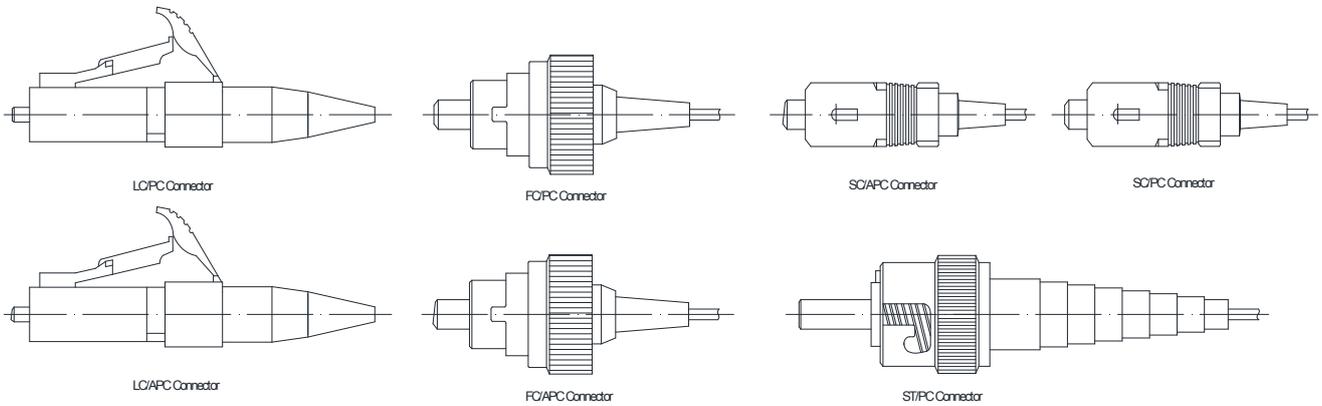
(Unless specified else,the specifications below are defined at Tc=25°C,SMF)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Operating Wavelength	λ	1290	1310	1330	nm	
Power supply	I <sub>cc</sub>	—	—	60	mA	
TIA supply Voltage	V <sub>CC</sub>	3.0	3.3	3.6	V	
APD Breakdown Voltage	V <sub>br</sub>	35	45	56	V	I <sub>d</sub> = 10uA
APD Operating Voltage	V <sub>APD</sub>	0.9*V <sub>br</sub>			V <sub>br</sub>	
Sensitivity	S <sub>en</sub>	—	-32	-29	dBm	PRBS2 <sup>23</sup> -1,BER=10 <sup>-10</sup> 2.5Gbps,ER=7dB
	S <sub>en</sub>	—	-32	-29	dBm	PRBS2 <sup>7</sup> -1,BER=10 <sup>-12</sup> 1.25Gbps,ER=10dB
Saturation Power	P <sub>sat</sub>	-7	—	—	dBm	PRBS2 <sup>7</sup> -1,BER=10 <sup>-10</sup> 2.5Gbps,ER=7dB

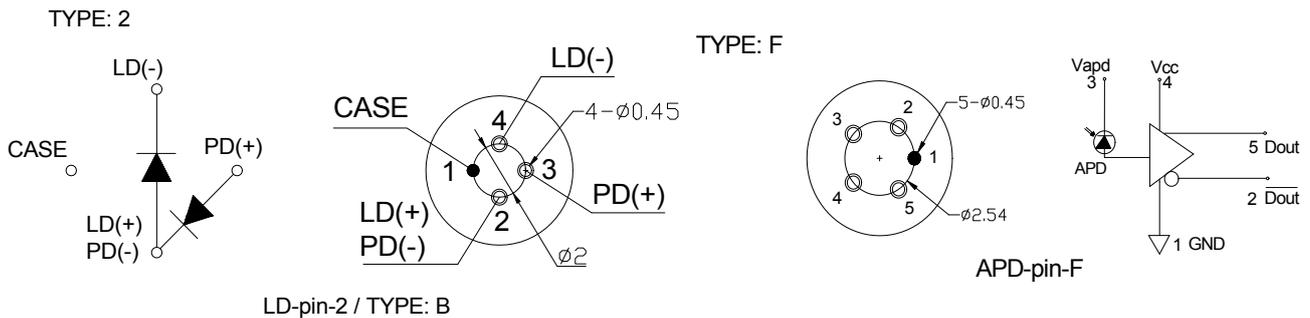
## Pigtail Package series



## Connector



## Pin Assignment



## 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
Case direction	H Type	Case direction	H Type



## Obtaining Document

You can visit our website:

<http://www.eoptolink.com>

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

## 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

## Notice:

Eoptolink 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. Eoptolink makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

## Contact:

Add:IOT Industrial Park, Southwest Airport Economic Development Zone, Shuangliu County, Chengdu, Sichuan, China.

Tel: +86-28-67087999 ext.8081

Fax:+86-28-67087979

Postal: 610213

E-mail:sales@eoptolink.com

<http://www.eoptolink.com>