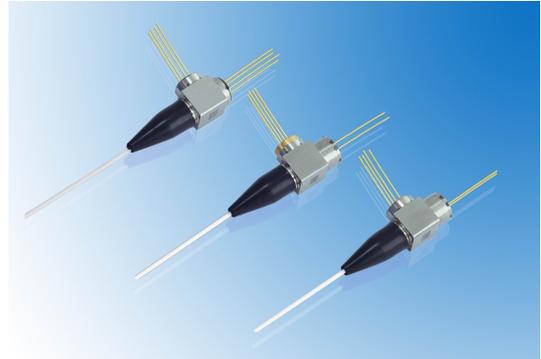


ETRPD5xxx3xxAxxxx-xxx

With 1550nm MQW-DFB Laser Diode and PIN/TIA for 155M to 2.5Gbps 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.LC.FC. and ST connector
- ◆ High channel isolation
- ◆ Low return loss

Applications

- ◆ Long distance digital transmission system
- ◆ Cable television system
- ◆ WDM systems
- ◆ Compatible with 100M/1000Mbps

Absolute maximum ratings

Parameter	Symbol	Min	Max	Unit
Storage temperature	Tstg	-40	85	°C
Operating case temperature	Top	-40	85	°C
Laser Forward current (LD)	I _{FL}	---	150	mA
Laser Reverse voltage (LD)	V _{RL}	---	2	V
Monitor PD Reverse current (PD)	I _{PD}	---	2	mA
Monitor PD Reverse voltage (PD)	V _{RD}	---	20	V
Soldering temperature (<10s)	Stemp	---	260	°C

Electrical and optical characteristics - Transmitter

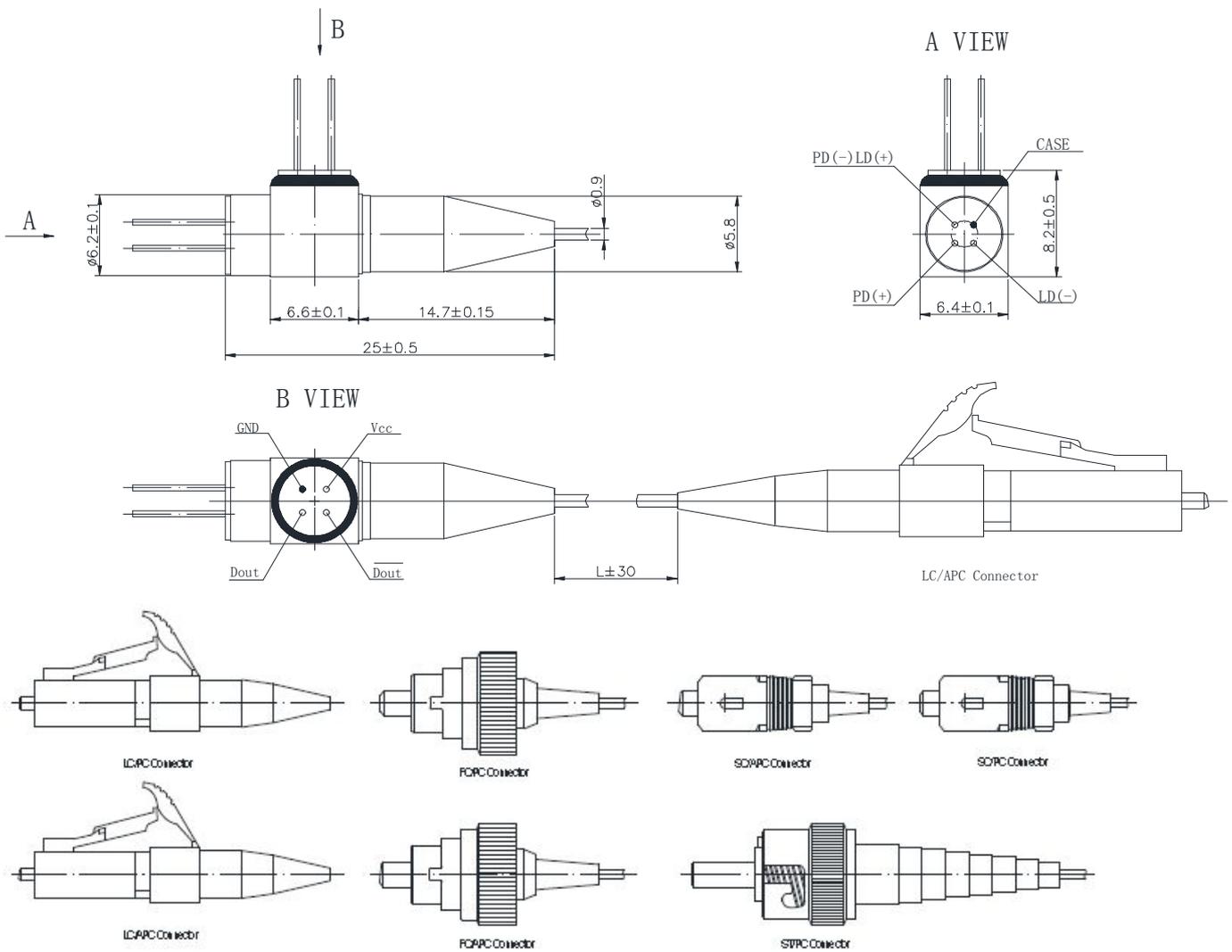
(Tc=+25+/-2°C, unless otherwise noted.)

Parameter	Symbol	Min.	Typ	Max	Unit	Condition
Threshold current	Ith	---	7.5	15	mA	CW
Output Optical Power	Pf	0.2	---	2.99	mW	CW, If=Ith+20mA
Operating voltage	Vf	---	1.1	1.5	V	CW, If=Ith+20mA
Slope efficiency	Se	0.01	---	0.15	mW/mA	CW, Average
Peak wavelength	λ_p	1530	1550	1570	nm	CW, If=Ith+20mA
Side mode suppression ratio	SMSR	35	45	---	dB	CW, Po=0.6mW, Tc=-20°C~+85°C
Spectral width	$\Delta\lambda$	---	0.1	1	nm	CW, If=Ith+20mA, -20dB
Rise and Fall Time	tr,tf	---	0.1	0.2	ns	CW, Ib=Ith, 10-90%
Monitor Current (PD)	Im	50	200	1000	uA	CW, If=Ith+20mA
Monitor Dark Current (PD)	Id	---	---	100	nA	VRD=5V
Capacitance (PD)	Ct	---	10	20	pF	VRD=5V, @=1MHz

Electrical / Optical Specifications - Receiver

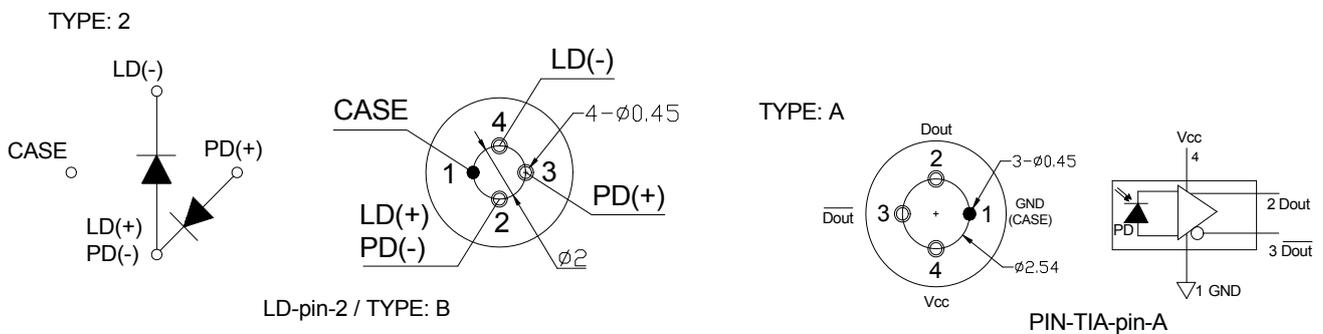
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Operating Wavelength	λ	1270	1310	1350	nm	
Supply Voltage	Vcc	3.0	3.3	3.6	V	
Supply Current	Icc	20	—	59	mA	Vcc=3.3V
Saturation Power	Psat	-3	0	—	dBm	
Sensitivity	Sen	—	-37	-35	dBm	$\lambda=1550\text{nm}, 155\text{M}, \text{RBS}=2^7-1, \text{BER}=10^{-10}$
		—	-32	-31	dBm	$\lambda=1550\text{nm}, 622\text{M}, \text{RBS}=2^{23}-1, \text{BER}=10^{-10}$
		—	-28	-27	dBm	$\lambda=1550\text{nm}, 1.25\text{G}, \text{RBS}=2^7-1, \text{BER}=10^{-10}$
		—	-24	-22	dBm	$\lambda=1550\text{nm}, 2.5\text{G}, \text{RBS}=2^{23}-1, \text{BER}=10^{-10}$

Pigtail Package series ^{*Note1}



Note1: PIN direction and laser mark can be customized. Pigtail is standard SM fiber; the length also can be customized.

Pin Assignment ^{*Note2}



Note2: Pin assignment 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

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

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

5. 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

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

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

Revision	Initiated	Reviewed	Revision History	Release Date
Va-1	George.zhong Hanks.du	Zore.Zhao Kelly.Cao	The initial version	2016-08-09

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