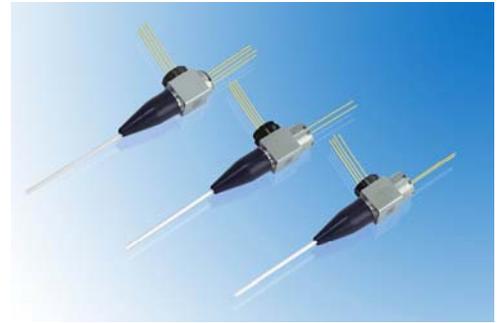


ETRP3xxK5xxCKxxx

With 1.31um 1.25G bps~2.5Gbps MQW-FP WDM laser diode and PIN/TIA 155Mbps~2.5Gbps transmission



Features

- ◆ Coaxial package
- ◆ InGaAsP/InP MQW-FP 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

Applications

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

Absolute maximum ratings

Parameter	Symbol	Ratings	Unit
Storage temperature	Tstg	-40~+85	°C
Operating case temperature	Top	-40~+85	°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 reverse voltage	Vpd	15	V
TIA supply voltage	Vcc	3.3~5	V
Soldering temperature (<10s)	Stemp	260	°C

Electrical and optical characteristics - transmitter

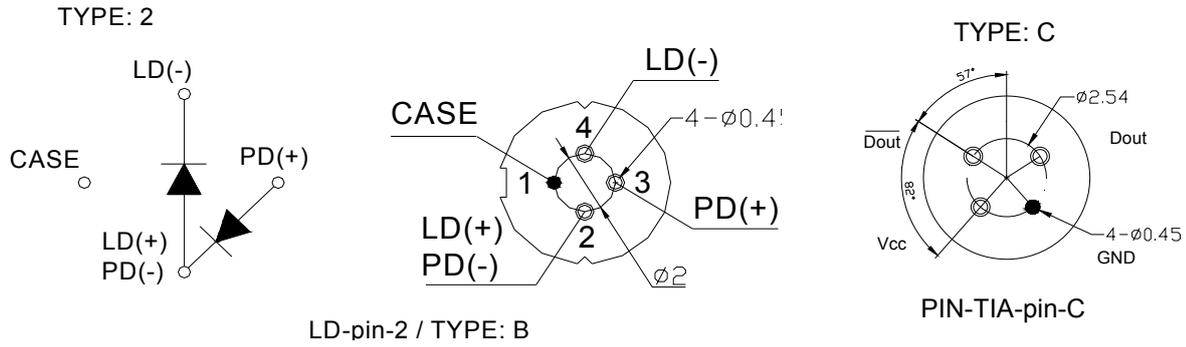
(SMF(9.5/125 μ m), Tc=+25/+2 $^{\circ}$ C, unless otherwise noted.)

Parameter	Symbol	Min.	Typ	Max	Unit	Test condition
Threshold current	I _{th}	—	10	15	mA	CW
Output power	P _f	0.2	—	2	mW	CW, I _f =I _{th} +20mA
Operating voltage	V _f	—	1.2	1.6	V	CW, T _c =-40~+85 $^{\circ}$ C
Slope efficiency	S _e	0.01	-	0.15	mW/mA	CW, average
Peak wavelength	λ _p	1290	1310	1330	nm	CW
Spectral width	$\Delta\lambda$	—	1.5	3	nm	CW, RMS
Rise and fall time	t _r ,t _f	—	0.1	0.25	ns	I _f =I _{th} +20mA, 20~80%
Monitor current (PD)	I _m	0.1	—	0.8	mA	CW, I _f =I _{th} +20mA
Dark current (PD)	I _d	—	—	0.01	μ A	VRD=5V
Capacitance (PD)	C _t	—	10	20	pF	VRD=5V, f=1MHz
Connector repeatability	—	-1	—	1	dB	—

Electrical and optical characteristics - receiver

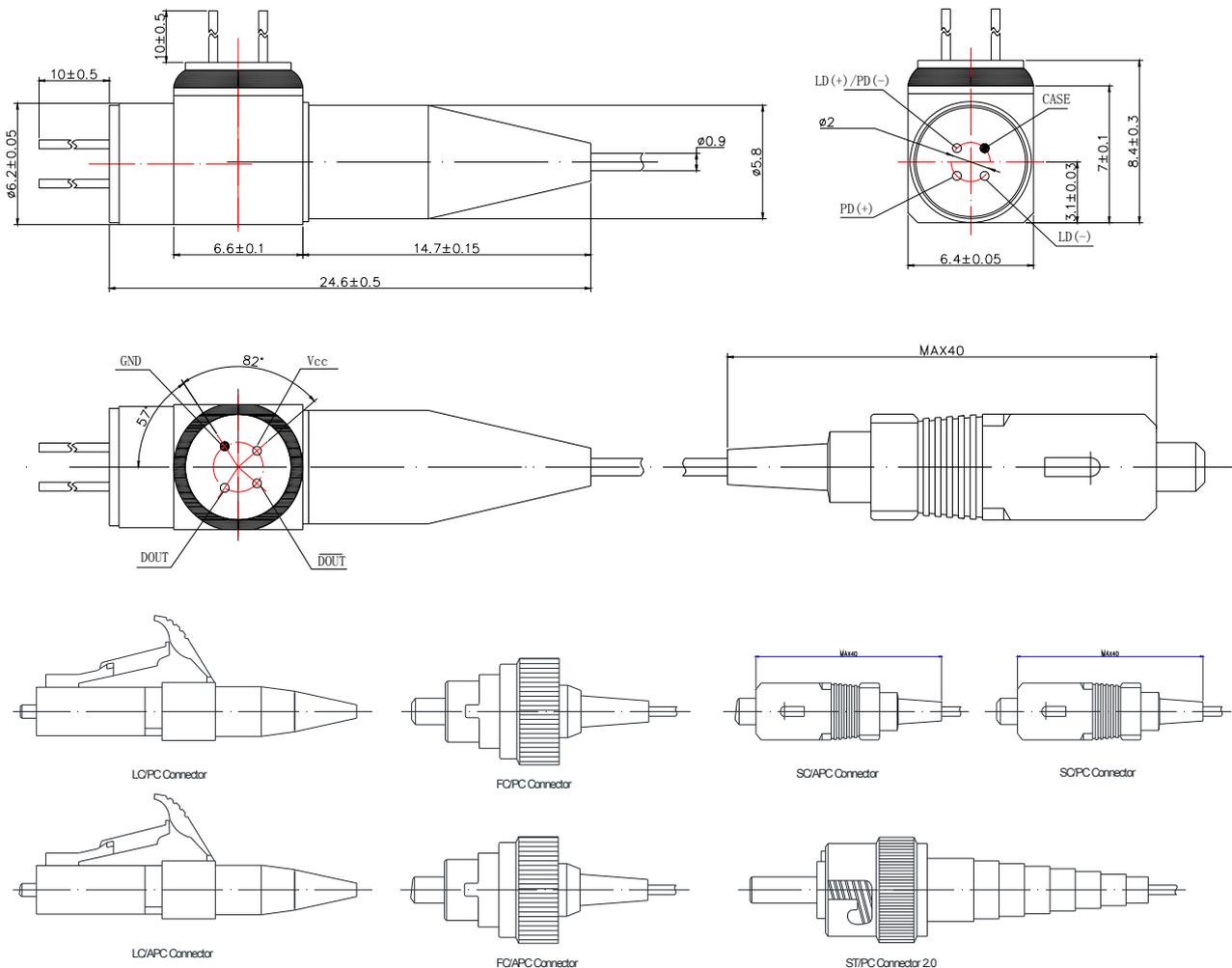
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Operating wavelength	λ	1500	1550	1600	nm	
Supply voltage	V _{cc}	3.0	3.3	5	V	
Supply current	I _{cc}	0		40	mA	3.3V/5V
Saturation power	P _{sat}	-3	—	—	dBm	
Output impedance	Z _o	—	50	—	Ω	Single ended
Small-signal bandwidth	BW	115	-	—	MHz	155Mbps PRBS2 ⁷ -1, BER= 1E-10 ER=9~10dB SM fiber
Sensitivity	Sen	—	-37	-36	dBm	
Small-signal bandwidth	BW	435	-	—	MHz	622Mbps PRBS2 ²³ -1, BER= 1E-10 ER=9~10dB SM fiber
Sensitivity	Sen	—	-32	-30	dBm	
Small-signal bandwidth	BW	730	812	893	MHz	1.25Gbps PRBS2 ⁷ -1, BER= 1E-10 ER=9~10dB SM fiber
Sensitivity	Sen	—	-28	-26	dBm	
Small-signal bandwidth	BW	1.4	-	—	GHz	2.5Gbps PRBS2 ²³ -1, BER= 1E-10 ER=9~10dB SM fiber
Sensitivity	Sen	—	-23	-21	dBm	

Pin assignment*Note1



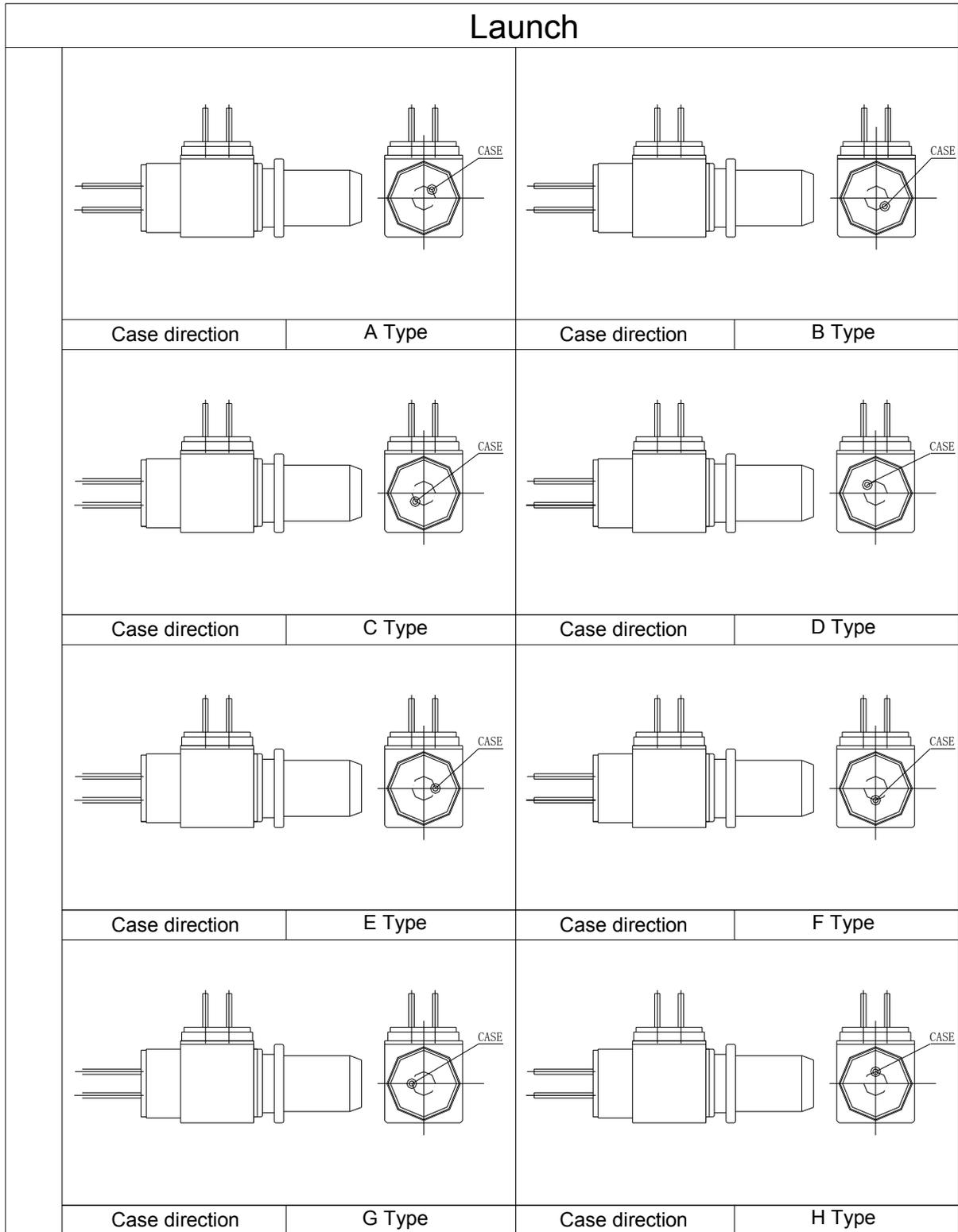
Note1.Pin assignment can be customized.

Pigtail package series *Note2



Note2.PIN direction and laser mark can be customized. Pigtail is standard SM fiber; the length also can be customized.

TX pin order code*Note3· 4· 5



Note3.This picture is for pluggable, pigtail BIDI chip PIN package direction's reference

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

Note5.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			
		A Type	
		B Type	
		C Type	
		D Type	
		E Type	
		F Type	
		G Type	
		H Type	

Ordering information (standard version) ^{*Note6}

Part No	Laser type	Receiving rate	Transmitter/receiver
ETRP3215K530CKTAA	FP	155M	13T/15R
ETRP3108K553CKFAA	FP	622M	13T/15R
ETRP3115K573CKSAAA	FP	1.25G	13T/15R
ETRP3204K590CKFAAA	FP	2.5G	13T/15R

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

ETRP

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

Code	Parameter	Detailed description							
A	Launch wavelength	3=1310nm							
B	Launch data rate	1=1.25Gbps				2=2.5Gbps			
C	Output power	04=0.25~0.7mW		08=0.71~1.29 mW		15=1.3~1.79 mW			
D	TX chip Type	K=EO							
E	Receiver wavelength	5=1550nm							
F	Receiver data rate	3=155M		5=622M		7=1.25G		9=2.5G	
G	Receiver voltage	0=3.3/5V		3=3.3V		5=5V			
H	RX pin type	C=PIN-TIA- pin-C							
I	RX chip type	K							
J	Connector	F=FC/PC		S= SC/PC		T=ST/PC		N =无头子	
		FA=FC/APC		SA= SC/APC		L=LC/PC			
K	TX pin package direction	A	B	C	D	E	F	G	H
L	RX pin package direction	A	B	C	D	E	F	G	H
M	Fiber diameter	Blank=SM white		M=MM white		B=SM blue		Y=SM yellow	
N	Fibre length	Blank=50cm		035=35cm		100=100cm		XXX=Custom	

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	Approved	Revision history	Release date
Va-1	Jack.Jiang	Yinchun.Zhao		Released	2013-4-26
Va-2	Yinchun.Zhao	James.Liu	Vincent	Information upgrade	2019-11-22

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