

GPDP-2022xxxG

Long Wavelength PIN Photodiode Module for Wide Frequency-range CATV Receiver (Pigtail Module)



Features

- ◆ Low return loss
- ◆ Low dark current
- ◆ Quick rulse response
- ◆ Suitable for CATV application
- ◆ High responsivity at 1310nm and 1550nm,high linearity
- ◆ High reliability and long operation Life
- ◆ RoHS compliant

◆ Applications

- ◆ Analog optical receiver
- ◆ Test equipments

General

GPDP-2022xxxG InGaAs PIN Photodiode series are high quality analog photodetectors designed for AM CATV receiver applications.

A photodiode is mounted into a low capacitance coaxial package integrated with a single mode fiber Pigtail.

Ordering information (standard version ^{*Note1})

Part No.	Wavelength (nm)	Explore area (um)	Bandwidth (GHz)	Package	Pin type
GPDP-2022BFAMG	1100~1650	75	3.2	B	M
GPDP-2022DSASG	1100~1650	75	3.2	D	S
GPDP-2022BSASG	1100~1650	75	3.2	B	S

*Note1: For more ordering information, please refer the nomenclature and contact EPOTOLINK sales.

Absolute maximum ratings

Parameter	Symbol	Min	Max	Unit
Storage temperature	TST	-40	100	°C
Operating temperature	TOP	-40	85	°C
Reverse voltage	VR		20	V
Saturation input power	PIN		10	dBm
Soldering temperature / time	Ts/t		260/10	°C/S

Electrical and optical characteristics

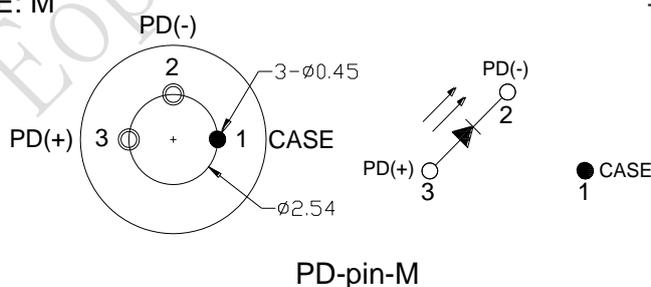
(Vr=5V, Tc=+25°C, unless otherwise noted.)

Parameter	Symbol	Min	Typ	Max	Unit	Test condition
Detection Wavelength Range	λ	1100	-	1650	nm	-
Active Diameter	DA	-	75	-	μm	-
Responsibility	R	-	0.85	-	A/W	VR=-5V@1310nm
		-	0.90	-	A/W	VR=-5V@1550nm
Return Loss	RL	-	-	-50	dB	
Dark Current	Id	-	0.1	1	nA	VR = 5V, 25°C
		-	-	5		VR = 5V, 80°C
Capacitance	Cp	-	0.6	0.7	pF	VR = 5V
Bandwidth	BW	2.7	3.2	-	GHz	VR=5V
Second order inter-modulation distortion	IMD2	-	-75	-70	dBc	$\lambda = 1310\text{nm}$ *Note2
		-	-75	-70		$\lambda = 1550\text{nm}$ *Note2
Third order inter-modulation distortion	IMD3	-	-85	-80	dBc	$\lambda = 1310\text{nm}$ *Note2
		-	-85	-80		$\lambda = 1550\text{nm}$ *Note2

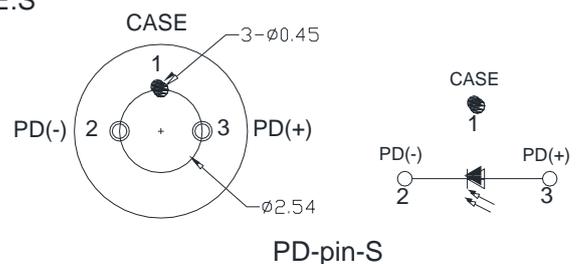
*Note2. IMD2 measured at VR=12V, Pavg=0dBm, OMI=0.7, RLOAD=50 Ω , f1+f2=850 MHz, f1-f2=50 MHz. IMD3 measured at VR=12V, Pavg=0dBm, OMI=0.7, RLOAD=50 Ω , 2f1-f2=500 MHz, 2f2-f1=350 MHz. All are measured at 25°C.

Pin Assignment

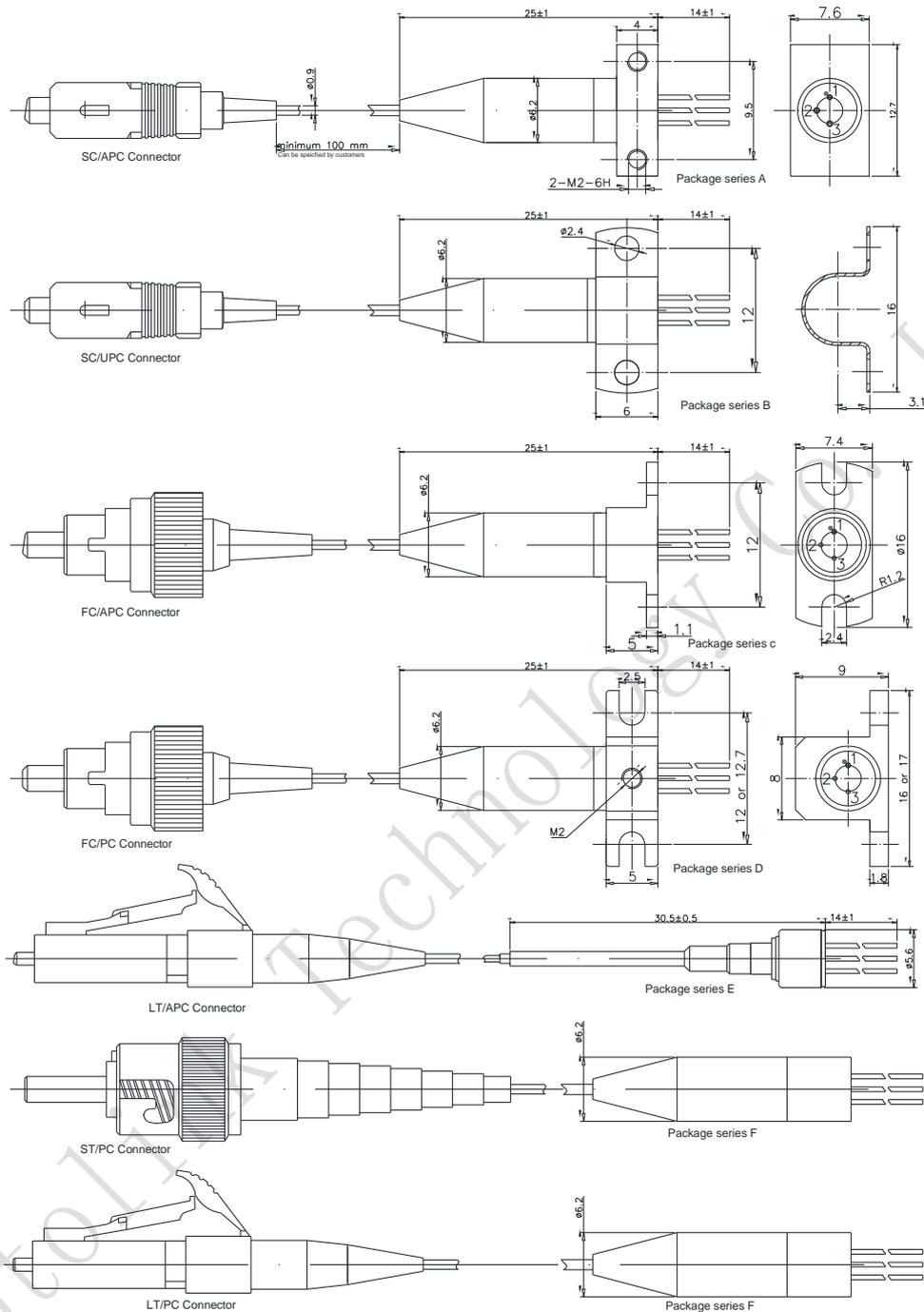
TYPE: M



TYPE: S



Pigtail Package dimension *Note3.4.5



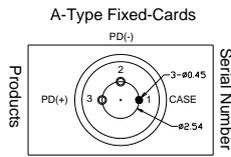
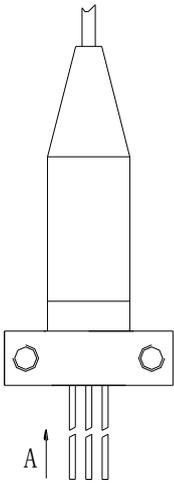
*Note3. PIN direction and laser mark can be customized. Pigtail is standard SM fiber; the length also can be customized.

*Note4. For the package series D, the clamping rings dimensions (A) and drill size (B) are can be selected. The following types can be available. Please designate the detailed type while ordering the package series D.

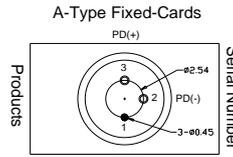
Fixed card type	A(mm)	B(mm)
D	16	12
D-S	17	12.7

*Note5. For the package series B, the fix card is fixed by customer self. For the detailed information of fix card of A, C, D package series, please refers the following graphs.

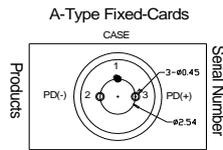
The direction of fix card



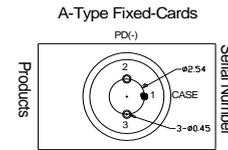
Direction A view
PPDMA-1(DEFAULT)



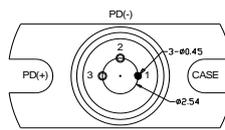
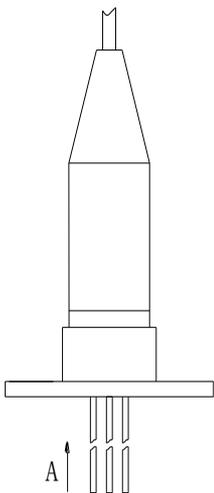
Direction A view
PPDMA-2



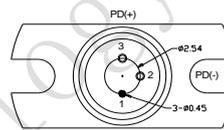
Direction A view
PPDTA-1(DEFAULT)



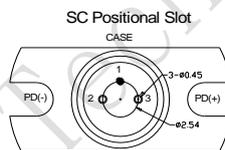
Direction A view
PPDTA-2



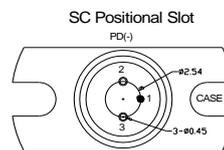
Direction A view
PPDMC-1(DEFAULT)



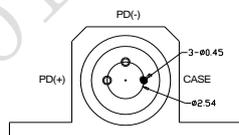
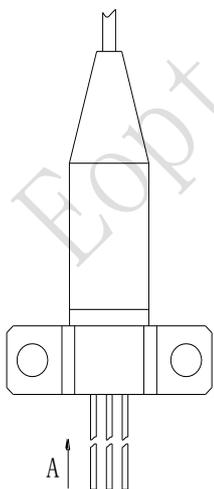
Direction A view
PPDMC-2



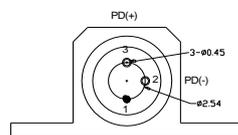
Direction A view
PPDTC-1(DEFAULT)



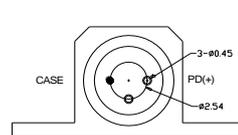
Direction A view
PPDTC-2



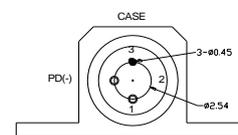
Direction A view
PPDMD-1(DEFAULT)



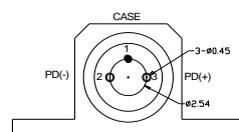
Direction A view
PPDMD-2



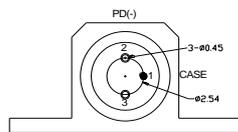
Direction A view
PPDMD-3



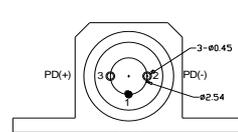
Direction A view
PPDMD-4



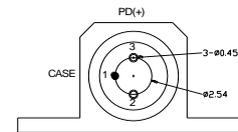
Direction A view
PPDTD-1(DEFAULT)



Direction A view
PPDTD-2

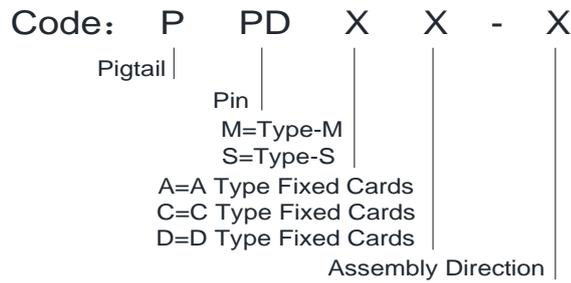


Direction A view
PPDTD-3



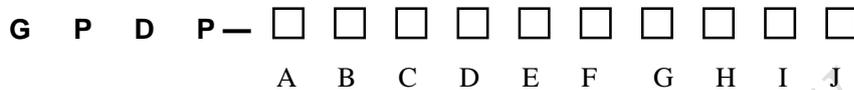
Direction A view
PPDTD-4

Nomenclature of assembly direction ^{*Note6}



*Note6. Please designate the code of assembly direction.

Ordering Information



Code	Parameter	Detailed description						
A	Wavelength	20=1100~1610nm						
B	Explore area	2=75μm						
C	RF Bandwidth	2≤3.2GHz						
D	Package series	A	B	C	D	E	F	
E	Connector	F=FC/PC		S=SC/PC		T=ST/PC		SA=SC/APC
		FA=FC/APC		L=LC/PC		N=None		
F	Pin Type	M=PD-pin-M			S=PD-pin-S			
G	TO Type	G						
H	Pass Band Wavelength	Blank=1310/1550nm		3=1310nm		5=1550nm		
I	Fiber Type	Blank=SM			M=MM			
J	Fiber diameter ^{*Note7}	BLANK=0.9mm	1=0.25mm	2=2.0mm		3=3.0mm		
K	Fibre length	BLANK=100±2cm		050=50±2cm		XXX=customer±2cm		

*Note7: E type package Fiber diameter is limited to less than 0.9mm.

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

Version	Initiated	Reviewed	Revision History	Release Date
Vb-1	Yinchun, Zhao	Kelly.Cao		2010-6-10
Vb-2	Jack.Jiang	Zore.Zhao	Deleted the forward current	2013-6-8
Vb-3	Jack.Jiang	Zore.Zhao	Added In the 80 degrees of dark current environment test	2014-01-02
Vb-4	Jack.Jiang	Zore.Zhao	Added the Fibre length	2014-01-04
Vb-5	Jack.Jiang	Kelly.Cao	Update RoHS discription	2014-01-06
Vb-6	george.zhong	Zore.Zhao	Increase fiber requirements	2015-02-06
Vb-7	george.zhong	Zore.Zhao	Remove PD-PIN-T information and update to PD-PIN-S	2018-04-12

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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>