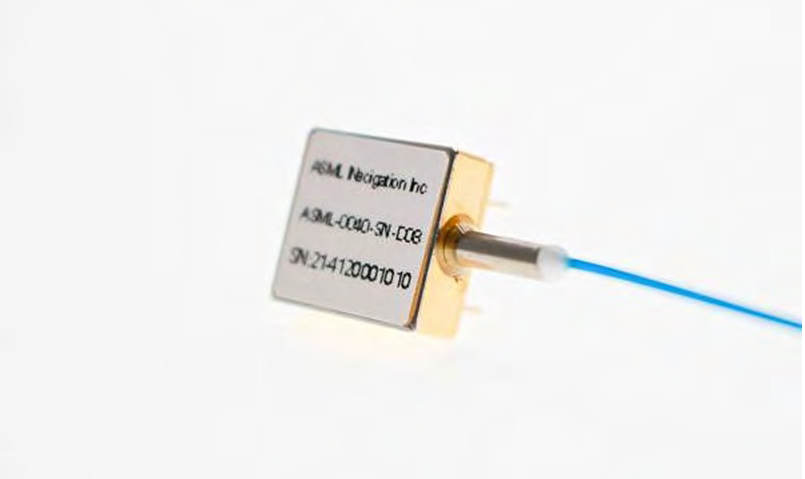
High Sensitivity PIN-FET Receiver Module



Description:

LD-PD's Pin-fet Hybrid receiver design is based on a hybrid assembly of a PIN photodiode and a high impedance FET preamplifier. This approach provides the best receiver sensitivity whilst offering potentially greater reliability than alternative receiver concepts. The PINFET provides an excellent solution for optical receiver systems that require both high sensitivity and wide dynamic range. Applications include telecommunications line terminating equipment or repeaters and optical sensor systems where a user adjustable gain may be desirable for optimizing system performance.

Features:

- InGaAs PIN detector plane structure
- Fixed transimpedance amplifier circuit
- Operation wavelength of 1100nm ~ 1650nm
- 14needle shallow cavity dual-in-line package
- SM or PM fiber coupled,FC/PC FC/APC connector optional
- Full temperature storage testing
- Full temperature operating testing

Application:

- Fiber optic gyro system
- Fiber communication system
- Fiber sensor system

Laser Specifications:

Specifications@ 25℃ (+/- 5.0 VDC)

Type	Bandwidth* (MHz)	Sensitivity (dBm)	Transimpedance(Kohms)	Dynamic range (dB)	Noise (mV)
LP0030	180	-40	70	25	0.1
LP0070	120	-43	30	25	0.1
LP0010	60	-45	10	25	0.1
LP0040	40	-49	40	25	0.1
LP0060	30	-50	60	25	0.2
LP0400	12	-52	400	25	0.3
LP0800	8	-54	800	25	0.5
LP1200	6	-55	1200	25	0.7
LP1400	4	-56	1400	25	0.9

NOTE: From July 2017 We accept higher bandwidth at 450MHZ(Data rate 622M);900MHZ(Data rate 1.25G);1700MHz(-Data rate 2.5G) OEM service.Min qty:10pcs

Please contact us for more details: info@ld-pd.com

Parameter @25℃ (+/- 5.0 VDC):

Parameter	Symbol	Unit	Min	Typ	Max	Test condition
Electrical Characteristics						
Rate	-	Mb/s	2	-	280	
Transimpedance	-	KΩ	30		8000	
Detector dark current	Id	nA	-	0.2	5	
Output impedance	Ro	Ω	-	50	-	
-3dB Bandwidth	BW	MHz	1	-	180	
Output voltage	Vout	mVp-p	-	1000	1200	RL=50Ω
Optical Characteristics						
Sensitivity	S	dBm	-56	-	-39	NRZ BER=10-9
Sensitivity vs temperature	-	dB	-	1	1.5	20°C~65°C
Overload	Pin-max	dBm	-3	-		
PIN Responsibility	R	A/W	0.9	-	-	λ=1310nm,Vr=-5V
			0.95	-	-	λ=1550nm,Vr=-5V
Wavelength range	λ	nm	1100	-	1650	
+5 V Operating current	IOC+5	mA	-	25	35	

Absolute Maximum Ratings:

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	Ts	°C	-40	85
Relative Humidity	RH	%	-	85
Positive Power Supply Voltage	Vcc/Vee	V	-	6
Negative Power Supply voltage	Vcc/Vee	V		-6
Reverse Detector Bias Voltage	-	V	-	-15
Forward Current	If	mA	-	2
Reverse photoCurrent	Ir	mA	-	5
Fiber coupled power	Pin	mW		5
Lead Solder Temperature	-	°C	-	260
Lead Soldering Time	-	s	-	10

*The sensitivity is calculated by using the PINFET transimpedance, the noise voltage (which is RMS of no light input) and the PIN responsivity. And it is at the conditions of room temperature and NRZ code Bit Error Rate better than 10^{-9}.

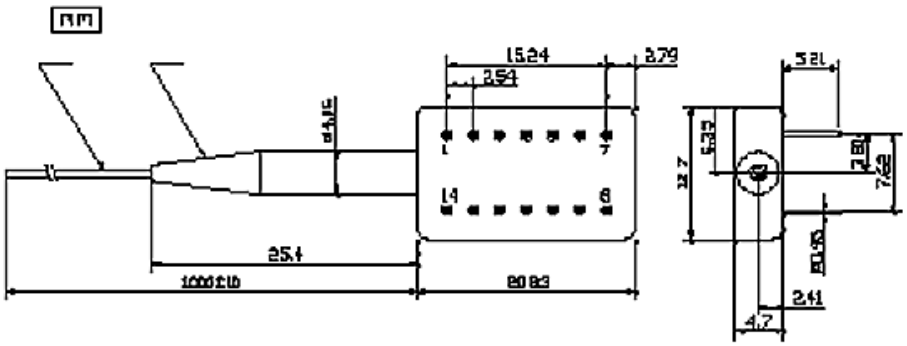
Recommended Operating Conditions:

Parameter	Symbol	Unit	Min	Typ	Max
Case Operating Temperature Range	Tc	℃	-20		+70
Operating Voltage	VOP	v		±5	

Dimensions and Fiber definitions:

14 pin Package

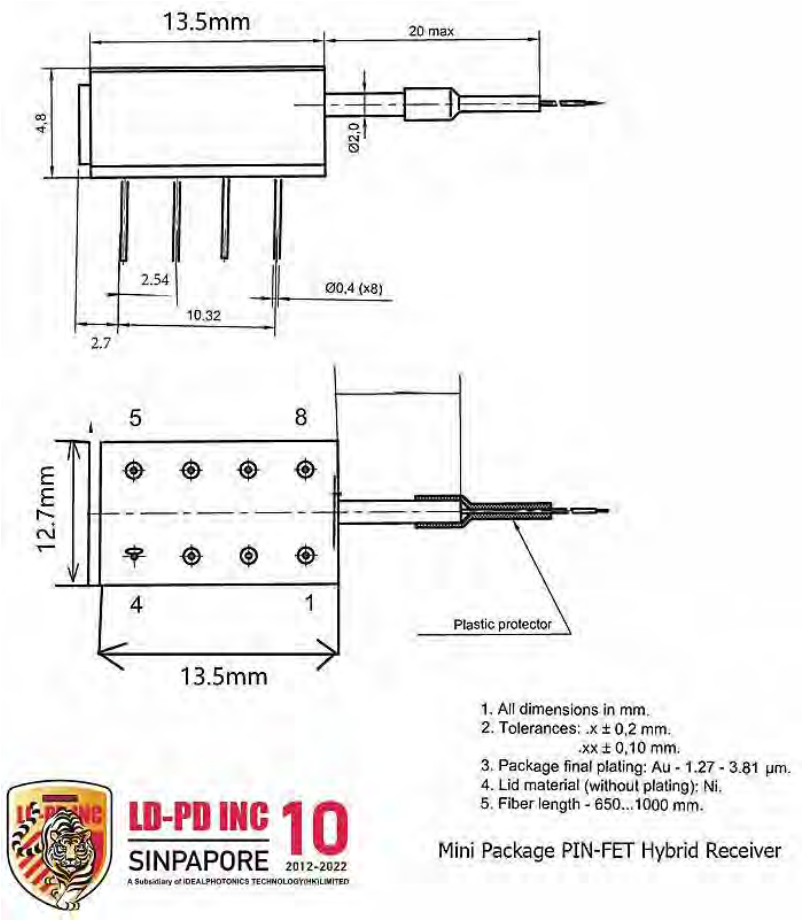
Unit: mm



14 Pin definition

Pin	Definitions	Pin	Definitions
1	-5V (Bias Voltage)	8	Grounding
2	NC	9	NC
3	Grounding	10	+5V Power Supply
4	-5V Power Supply	11	NC
5	Grounding	12	NC
6	NC	13	NC
7	Signal Output	14	NC

Mini 8pin SK-DIP package



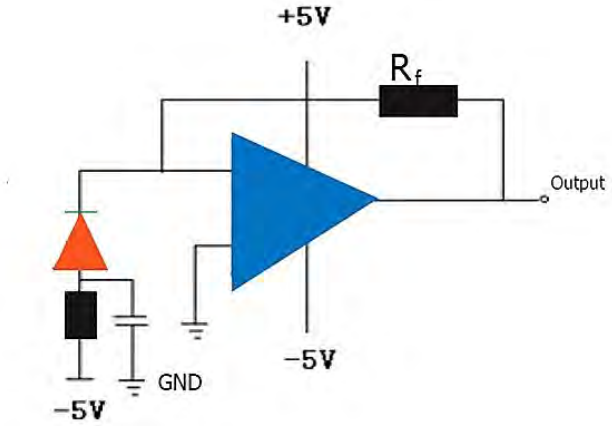
8 Pin definition

Pin	Definitions	Pin	Definitions
1	NC	5	-5V Power Supply
2	-5V Power Supply	6	Signal Output
3	Grounding Power Supply	7	Grounding Signal
4	+5V Power Supply	8	Case

PIN-FET Hybrid Receiver Working Theory:

PIN-FET Designed by LD-PD INC Including two mainly electronic part-byway Detector and operational amplifier circuit(OAC).The Byway detector is PD Which Converts an optical signal into an electrical signal,The OAC is mainly used to amplify the PD converted electrical signals to achieve an ideal output signal.

The schematic diagram of the working Theory is shown in the following figure:



Ordering Info:

LP	-Transimpedance	-Fiber Type and Connector	-Package Type
	1200:1200KΩ	SP:SM Fiber,FC/PC Connector	D14:DIP14
	0800:800KΩ	SN:SM Fiber,None connector	D08:DIP8
	0600:600KΩ	SA:SM Fiber,FC/APC Connector	MD08:MINI DIP8
	0400:400KΩ	PA:PM Fiber,FC/APC Connector	
	0060:60KΩ	PP:PM Fiber,FC/PC Connector	
	0040:40KΩ	PN:SM Fiber,None connector	