

Coaxial Receptacle Analog PIN Detector Module

Description

LR11xx series are high responsibility and high linearity PIN photodiode.

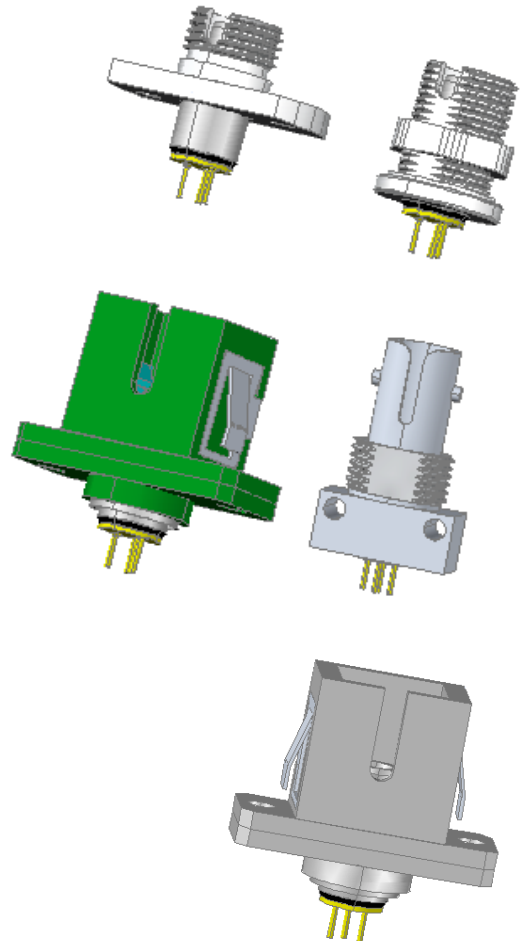
The products features: Low capacitance, low dark current and high Optical return loss. They are widely used in instrument at 1260-1620nm operating wavelength for receiver. This device is mounted into a coaxial package, and FC, SC or ST receptacle can be selected.

Features

- High responsibility 0.85A/W
- High linearity InGaAs PIN detector
- Low distortion, high bandwidth
- High reliability coaxial receptacle package
- FC, SC or ST receptacle can be selected

Application

- Receiver For CATV/CDMA
- Analog Linear Transmission Systems
- Receiver for Instrument



Absolute Maximum Ratings^[1]

Parameter	Symbol	Min	Max	Units	Notes
PIN Reverse Voltage	V_R	---	25	V	
PIN Forward Current	I_R	---	10	mA	
Fiber Input Power	P_{IN}	---	10	dBm	
Operating Temperature	T_C	-40	+85	□	Case temperature
Storage Temperature	T_{STG}	-40	+85	□	Ambient temperature
Relative Humidity	RH	---	80	%	
Lead Soldering Temperature	T_S	---	260	□	
Lead Soldering Time		---	10	S	$T_S=260$ □

Note 1: Beyond the scope of absolute maximum ratings can cause permanent damage to the device. If it has been a long time to use the device in the absolute maximum ratings may affect device reliability.

Electric and Optical Characteristics

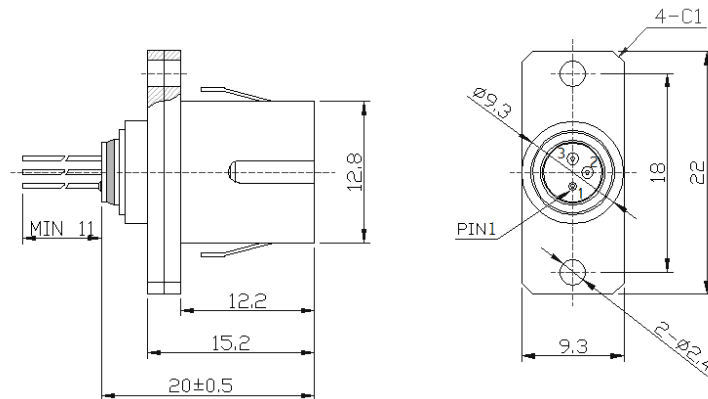
(All measurements are at Case temperature of $25 \pm 3^\circ\text{C}$, $V_R=12\text{V}@1310\text{nm}$ unless stated otherwise.)

Parameter	Symbol	Min	Typical	Max	Units	Notes
Operating Wavelength	λ	1260	---	1620	nm	
Supply Voltage	V_S	---	-12	-5	V	
Responsibility	R	0.8	0.85	---	A/W	$V_R=5\text{v}, 1310\text{nm}$
		0.85	0.9	---		$V_R=5\text{v}, 1550\text{nm}$
Active Area	Φ	---	75	---	μm	
Return Loss	RL	---	---	-35	dB	APC
Modulation Bandwidth	BW	3	---	---	GHz	-3dB, $V_R=12\text{V}$, Pin=0dBm
		5	---	---		-3dB, $V_R=12\text{V}$, Pin=0dBm with FPC
Capacitance	C	---	0.4	0.7	pF	$V_R=5\text{v}, f=1\text{MHz}$
Dark Current	I_D	---	---	1	nA	$V_R=5\text{v}$
Composite Second Order beat	CSO	---	---	-70	dBc	[2]
Composite Third Order beat	CTB	---	---	-80	dBc	[2]

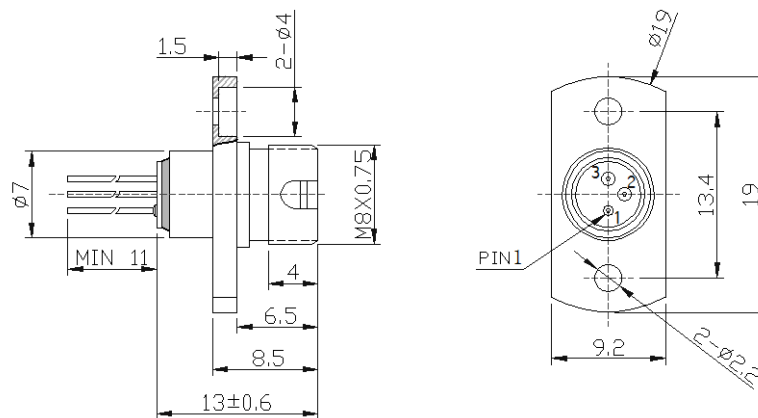
Notes 2: Two-tone test condition : $f_1=50\text{MHz}$, $f_2=505\text{MHz}$, $f_1 \pm f_2$, $V_R=-12\text{V}$, $P_{\text{avg}}=0\text{dBm}$, $\text{OMI}=0.25$, $R_{\text{load}}=75\Omega$.

Outline Dimensions

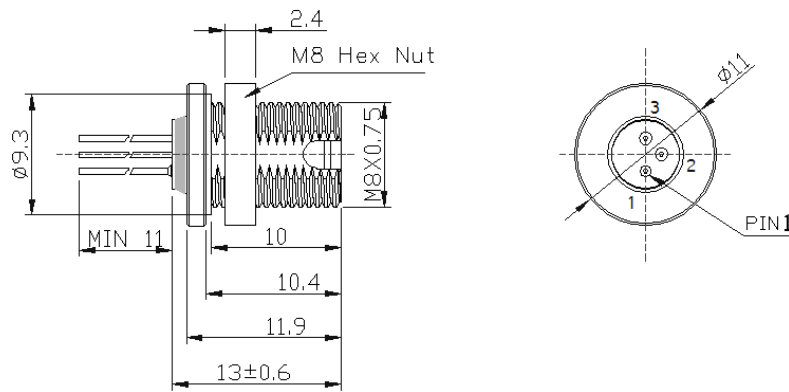
All dimensions are $\pm 0.1\text{mm}$ unless otherwise specified (Unit: mm). For detail information please contact LinkPhotonic.



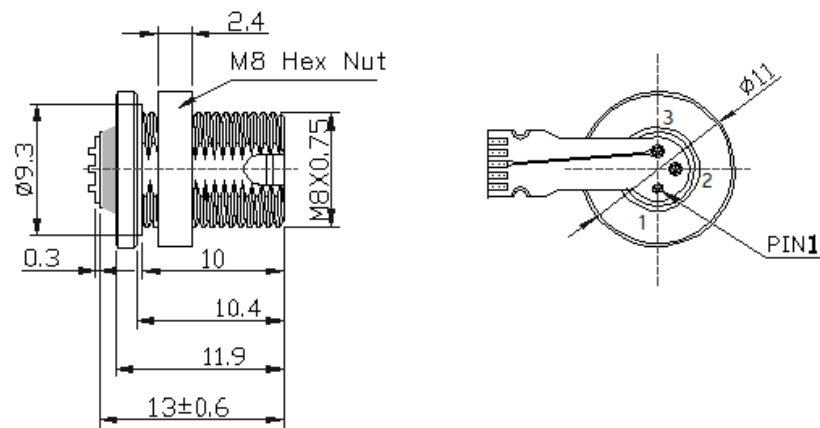
SC Receptacle



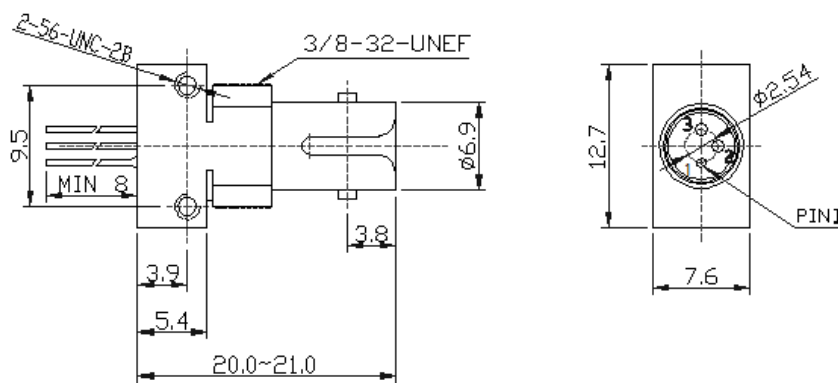
FC Receptacle-1



FC Receptacle-2

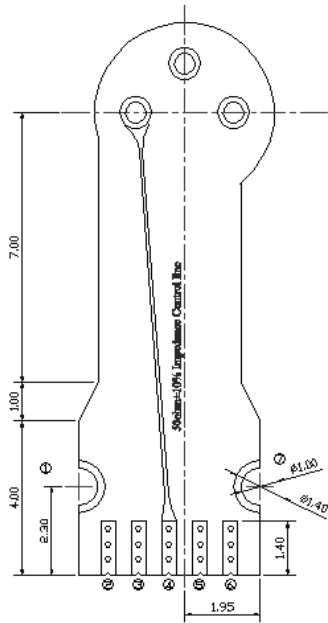


FC Receptacle-2 (with FPC)

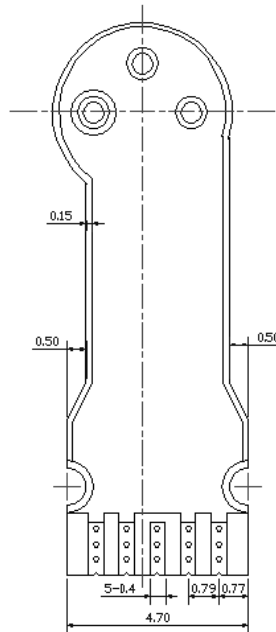


ST Receptacle

Outline of FPC and Pad Descriptions



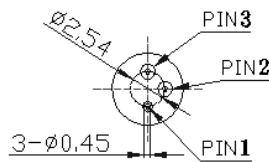
Top Side



Bottom Side

Pin	
1	GND (PD-/Case)
2	GND (PD-/Case)
3	GND (PD-/Case)
4	PD+ (RF out)
5	GND (PD-/Case)
6	GND (PD-/Case)
7	GND (PD-/Case)

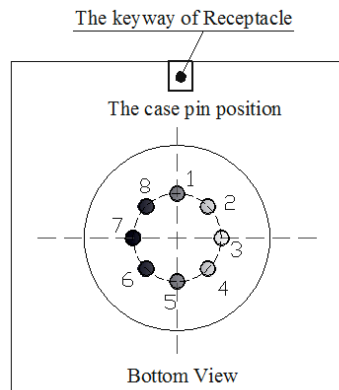
PD Pin Assignment



Bottom View

Pin	
1	CASE
2	PD Cathode
3	PD Anode

PD Pin Direction:



Note: 0: Any direction

9: with FPC

Precautions

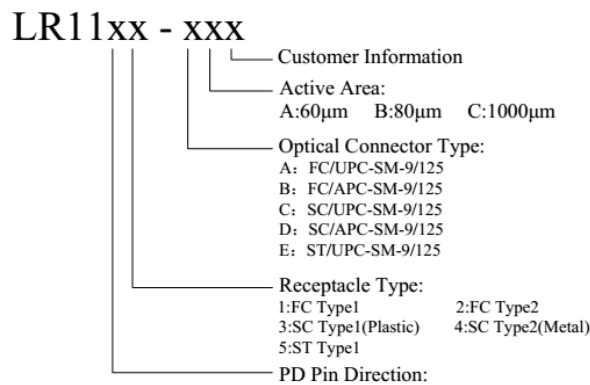
Semiconductor chips are sensitive to electro-static damage. The module shall be packed with antistatic material for transportation. The working station and operators shall be grounded. Switching transients can cause electrical overstress (EOS) damage to the chips. EOS be may resulted from improper ESD handling, improper power sequencing, a faulty power supply or an intermittent connection.

a. Operators should always use antistatic bands and clothing, electric conductive shoes, and other safety appliances while at work are highly recommended.

b. Humidity in working environment should be controlled equal or above 40 percent RH.

c. It is recommended that grounding mats be placed on the surfaces of assembly line workbench and the surrounding floor in working area, etc.

d. When mounting this product in other parts or materials which can be electrically charged (printed wiring boards, plastic products, etc.), pay close attention to the static electricity in those parts.ESD may damage the product.

Ordering Information**Statement**

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