

10Gbps PIN-TIA ROSA

Description

LP1800 series are high responsibility and high sensitive 10Gbps PIN-TIA ROSA.

The modules are ideally suitable for intermediate reach of 10.3125Gb/s transmission applications.

The products features: Low capacitance、low dark current. They are widely used in instrument at 1260-1620nm operating wavelength for receiver. A InGaAs PD is mounted into a coaxial package integrated with TIA.



Features

- High sensitive and high reliability
- Data rate up to 10.3125Gbps
- Coaxial receptacle package with FPC
- Single +3.3V power supply

Application

- 10G Fiber Channel
- SDH/SONET Transceivers up to 10Gbps
- Other 10Gbps data transmission system

Absolute Maximum Ratings^[1]

Parameter	Symbol	Min	Max	Units	Notes
PIN Reverse Voltage	V_R	---	20	V	
PIN Forward Current	I_R	---	5	mA	
Fiber Input Power	P_{IN}	---	+3	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.

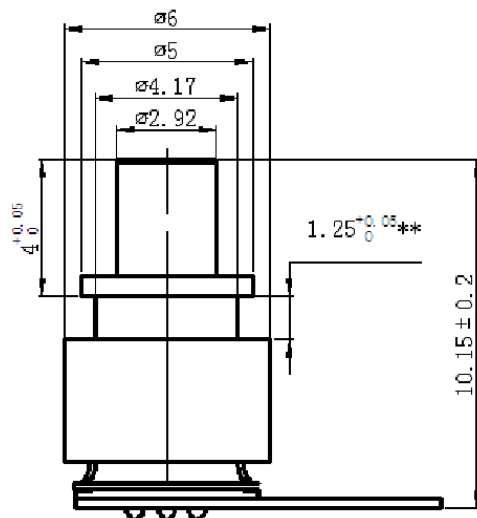
Electric and Optical Characteristics

(All measurements are at Case temperature of $25 \pm 3^\circ\text{C}$, $V_R=12\text{V}@1310 \pm 10\text{nm}$ unless stated otherwise.)

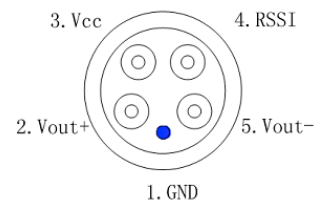
Parameter	Symbol	Min	Typical	Max	Units	Notes
Operating Wavelength	λ	1260	---	1620	nm	
Supply Voltage	V_{CC}	3.1	3.3	3.5	V	
Supply Current	I_{CC}		40	70	mA	
Responsibility	R	0.8	0.85	---	A/W	$\lambda=1310\text{nm}$
		0.85	0.9	---		$\lambda=1550\text{nm}$
Differential Output Voltage	V_{out}	200	300	380	mV	
RSSI Slope		0.9	---	1.1		
Return Loss	RL	-14	---	---	dB	
Modulation Bandwidth	BW	7.0	---	---	GHz	-3dB, Pin=-3dBm with FPC
Dark Current	I_D	---	---	10	nA	$V_R=5\text{v}$
Rise time	T_r	---	---	70	Ps	Unfilter 20%~80% , ER=6
Fall time	T_f	---	---	70	Ps	Unfilter 20%~80% , ER=6
Output Impedance	Z_{in}	---	100	---	ohm	
Saturation Power	P_{sat}	1.0	---	---	dBm	$\lambda=1310\text{nm}, PRBS=2^{23}-1, NRZ$
Sensitivity	Sen			-16.5	dBm	ER=4.7dB, DR=10.3125Gbps

Outline Dimensions

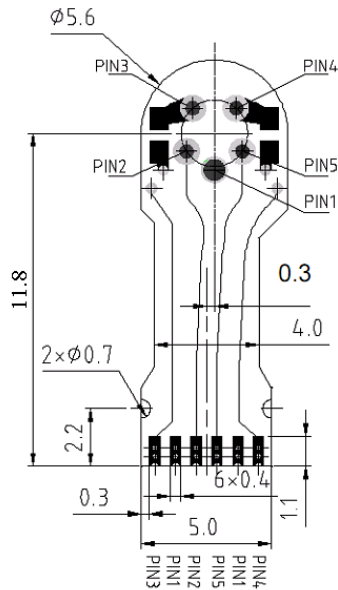
All dimensions are $\pm 0.1\text{mm}$ unless otherwise specified (Unit: mm). For detail information please contact LinkPhotonic.



Bottom View



Outline of FPC and Pad Descriptions



Pin	
1	GND
2	Vout+
3	Vcc
4	RSSI
5	Vout-

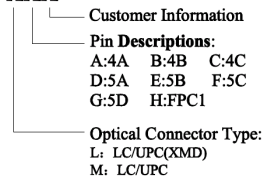
Precautions

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

LP1800 - xxx



Statement

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