

## Photolink- Fiber Optic Receiver PLR237/T8BK



### Features

- High PD sensitivity optimized for red light
- Data : NRZ signal
- Low power consumption for extended battery life
- Built-in threshold control for improved noise Margin
- The product itself will remain within RoHS compliant version.
- Receiver sensitivity: up to  $-27\text{dBm}$  (Min. for 25Mbps)
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH
- Compliance Halogen Free(Br<900ppm,Ci<900ppm,Br+Cl<1500ppm)

### Description

The optical receiver is packaged with custom optic data link interface, integrated on a proprietary CMOS PDIC process.

The unit functions by converting optical signals into electric ones.

The unit is operated at 2.4 ~ 5.5 V and the signal output interface is TTL compatible with high performance at low power consumption.

### Applications

- Digital Optical Data-Link
- Dolby AC-3 Digital Audio Interface

### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply Voltage	Vcc	-0.5 ~ +5.5	V
Output Voltage	Vout	Vcc +0.3	V
Storage Temperature	Tstg	-40 to 85	°C
Operating Temperature	Topr	-20 to 70	°C
Soldering Temperature	Tsol	260*	°C
Human Body Model ESD	HBM	2000	V
Machine Model ESD	MM	100	V

Notes: Soldering time ≤ 10 seconds.

### Recommended Operating Conditions

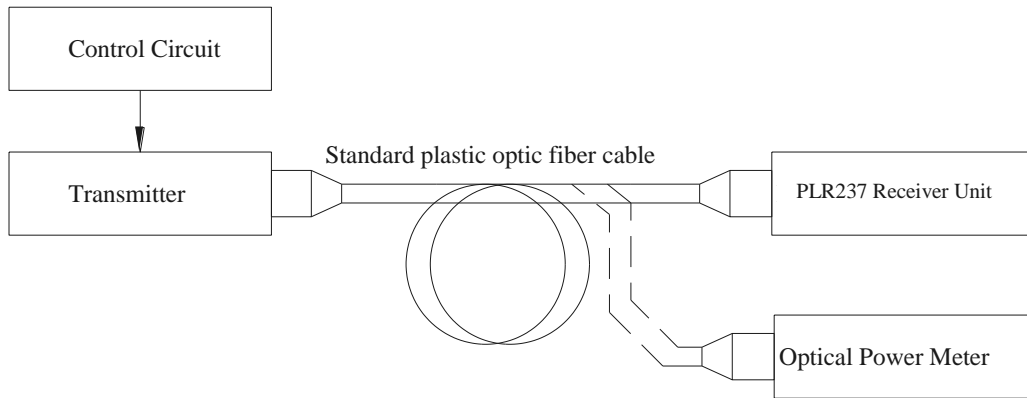
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Supply Voltage	Vcc	-	3.0	--	5.50	V

### Electro-Optical Characteristics (Ta=25°C, Vcc=3V, CL= 5pf)

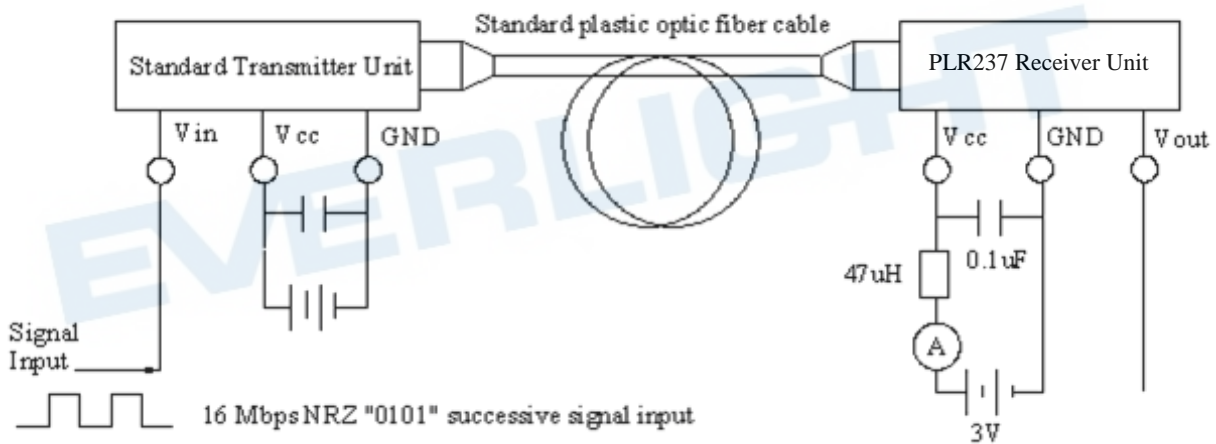
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Peak sensitivity wavelength	$\lambda_p$	-	-	650	-	nm
Maximum receiver power	Pc,max	Refer to Fig.1	-	-	-14	dBm
Minimum receiver power	Pc,min	Refer to Fig.1	-27	-	-	dBm
Dissipation current	Icc	Refer to Fig.2	-	2.0	4.0	mA
High level output voltage	VOH	Refer to Fig.3	2.4	2.9	-	V
Low level output voltage	VOL	Refer to Fig.3	-	0.4	0.5	V
Rise time	tr	Refer to Fig.3	-	10	20	ns
Fall time	tf	Refer to Fig.3	-	10	20	ns
Propagation delay Low to High	tPLH	Refer to Fig.3	-	-	120	ns
Propagation delay High to Low	tPHL	Refer to Fig.3	-	-	120	ns
Pulse Width Distortion	$\Delta tw$	Refer to Fig.3	-25	-	+25	ns
Jitter	$\Delta tj$	Refer to Fig.3, Pc=-14dBm	-	1	15	ns
		Refer to Fig.3, Pc=-27dBm	-	5	20	ns
Transfer rate	T	NRZ signal	0.1	-	25	Mb/s

### Measuring Method

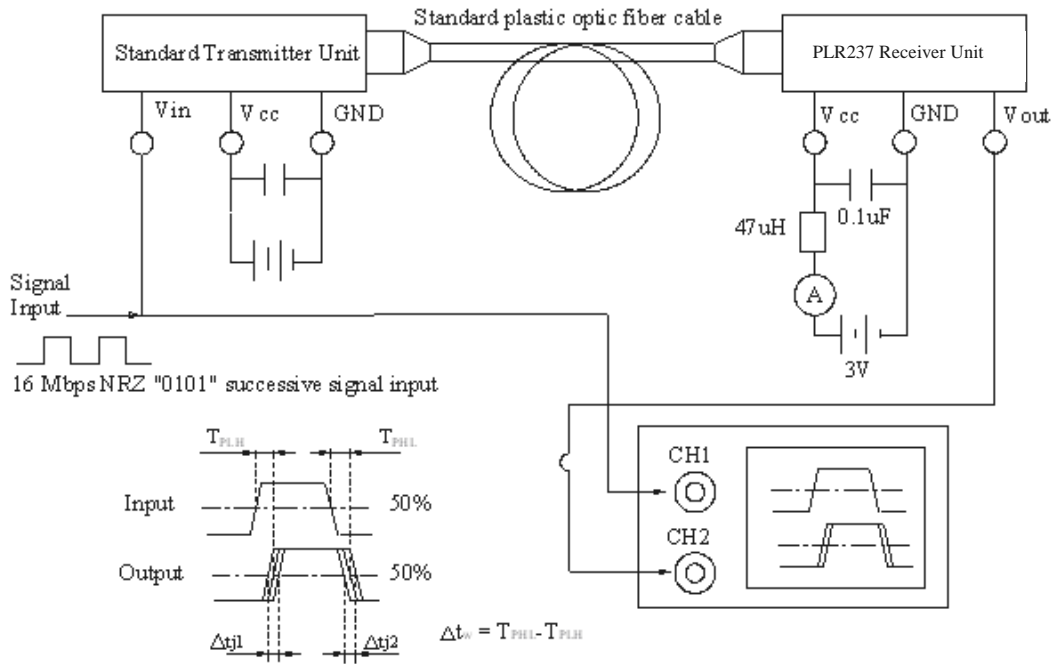
\*Fig.1 Measuring Method of Maximum and Minimum Input Power that Receiver Unit Need



\*Fig.2 Measuring Method of Dissipation Current



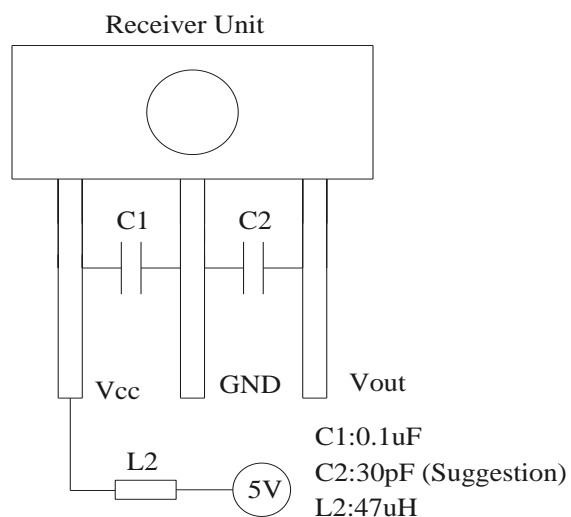
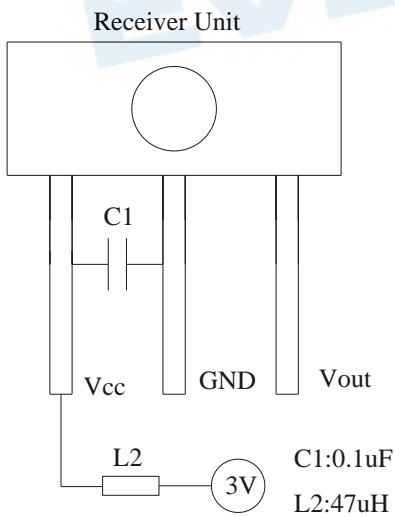
\*Fig.3 Measuring Method of Output Voltage, Pulse and Jitter



**Application Circuit**

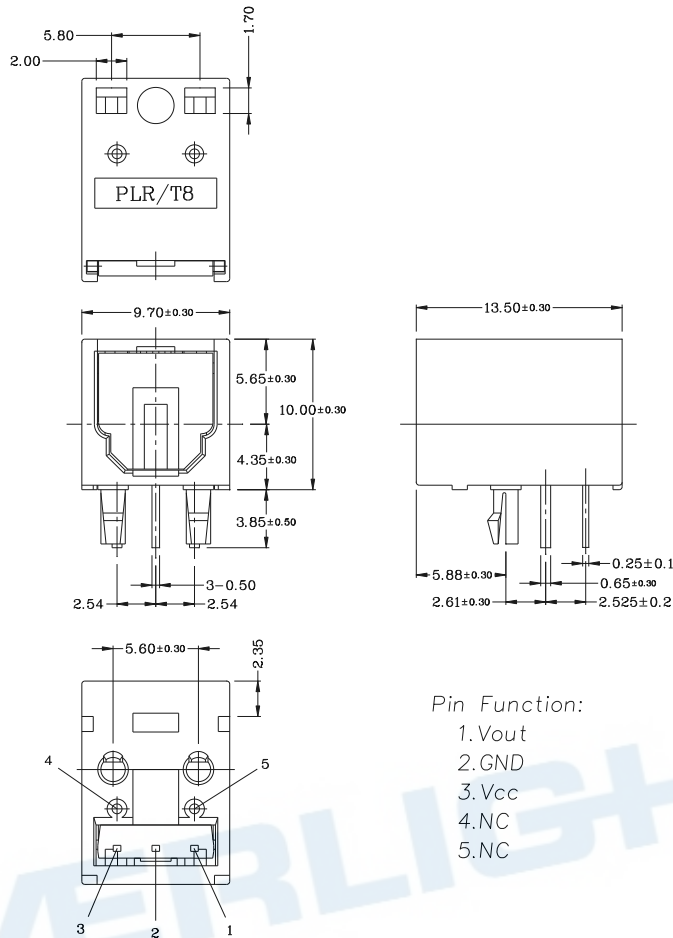
(1) General application circuit for Vcc=3V

(2) General application circuit for Vcc=5V



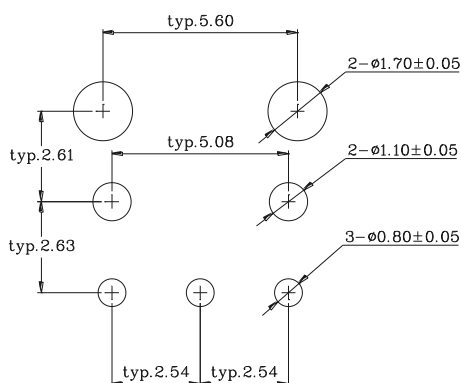
Note: For having good coupling, the C1,C2 capacitor must be placed within 7mm

Package Dimension



- Notes:**
1. All dimensions are in millimeters.
  2. General Tolerance :±0.3mm

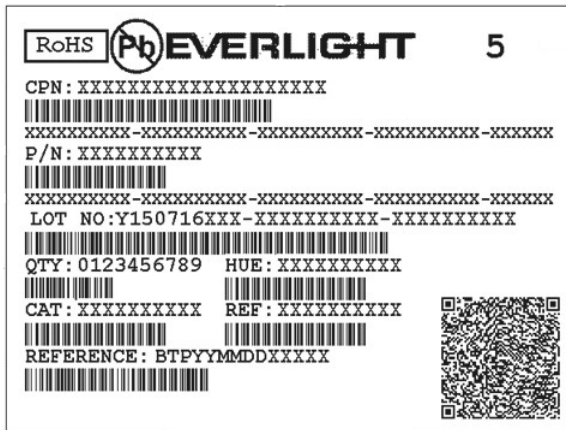
PCB Layout for Electrical Circuit



**Notice:**

1. Unit:mm
2. PCB tolerance:1.6mm

## Label Explanation



- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number
- X: Month
- Reference: Identify Label Number

## Packing Quantity Specification

1. 60 pcs/tube
2. 36 tubes/box
3. 4 boxes/carton

## Notes

1. Above specification may be changed without notice. Everlight Americas will reserve authority on material change for above specification.
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Please avoid rapid transitions in ambient temperature, especially, in high humidity environments where condensation can occur.
5. After opening the package, the devices must be stored at 10°C~30°C and ≤ 60%RH, and used within 24 hours (floor life)

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