

## Photolink- Fiber Optic Receiver PLR162 SERIES

### 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
- Pb Free
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH
- Compliance Halogen Free(Br<900ppm,Cl<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**

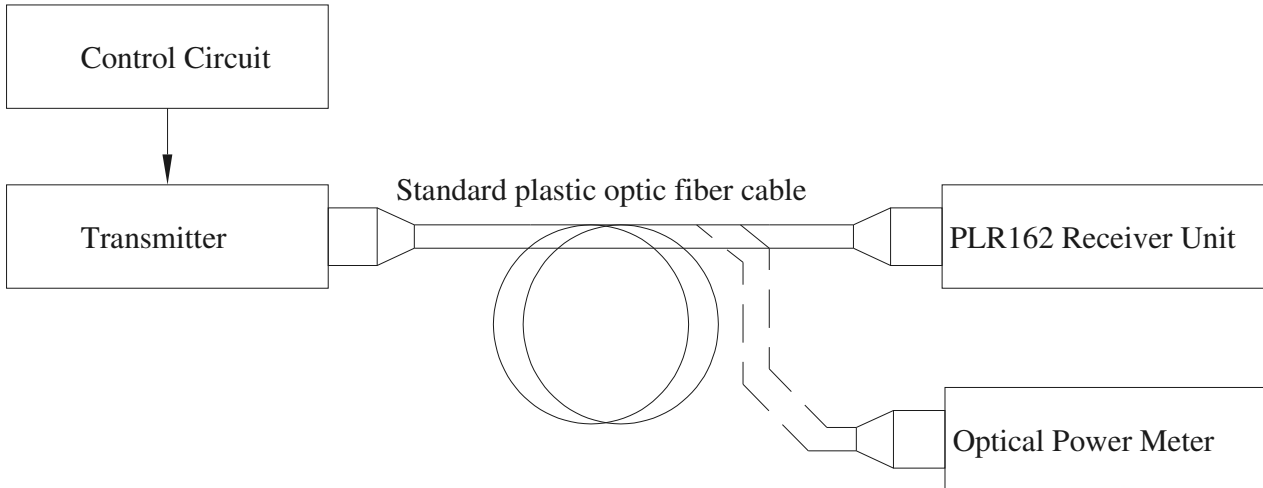
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Supply Voltage	Vcc	-	2.4	3.0	5.50	V

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

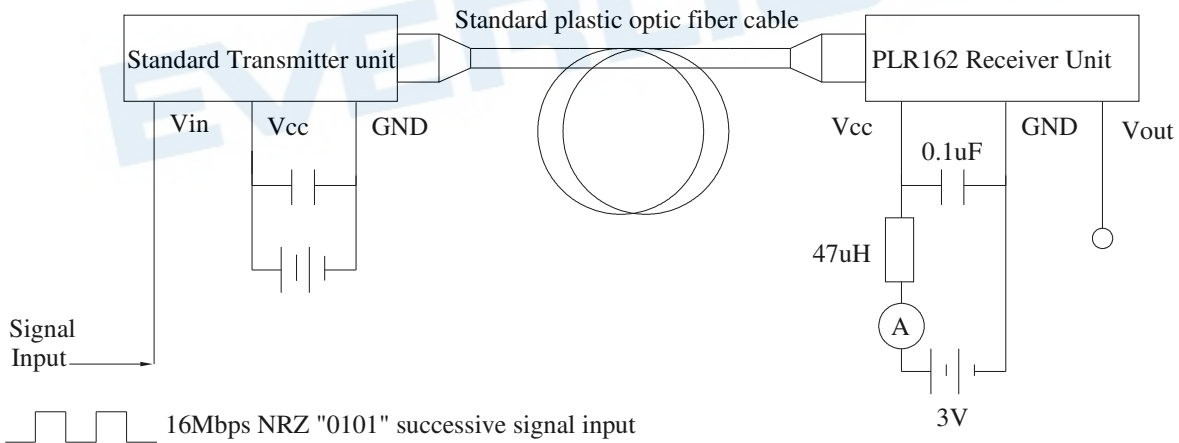
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Transmission Distance	d		0.2	--	5	m
Peak sensitivity wavelength	λp	-	-	650	-	nm
Maximum receiver power	Pc,max	Refer to Fig.1	-	-	-14	dBm
Minimum receiver power	Pc,min	Refer to Fig.1	-27	-	-	dBm
Dissipation current	Icc	Refer to Fig.2	-	4	12	mA
High level output voltage	VOH	Refer to Fig.3	2.1	2.5	-	V
Low level output voltage	VOL	Refer to Fig.3	-	0.2	0.4	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	Δtw	Refer to Fig.3	-25	-	+25	ns
Jitter	Δtj	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	-	16	Mb/s

### Measuring Method

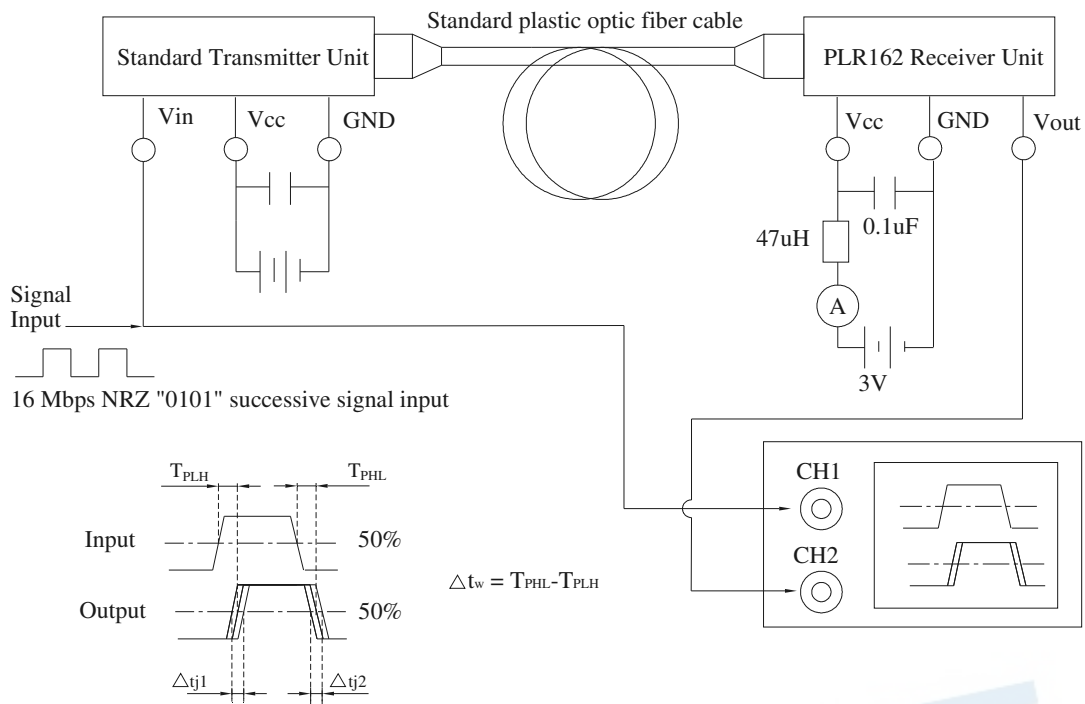
\*Fig.1 Measuring Method of Maximum and Minimum Input Power that Receiver Unit Need



\*Fig.2 Measuring Method of Dissipation Current

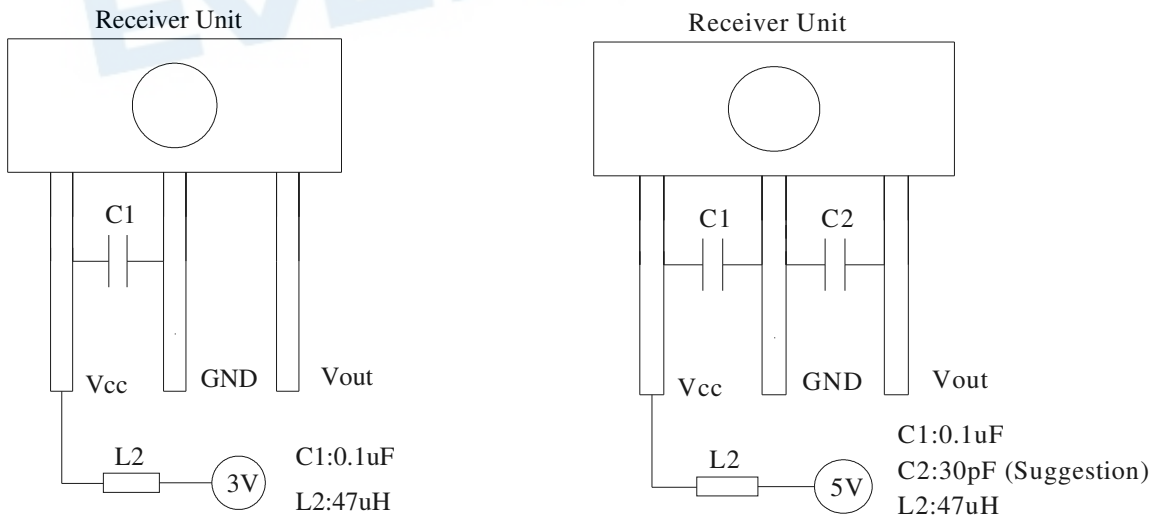


\*Fig.3 Measuring Method of Output Voltage, Pulse and Jitter



### Application Circuit

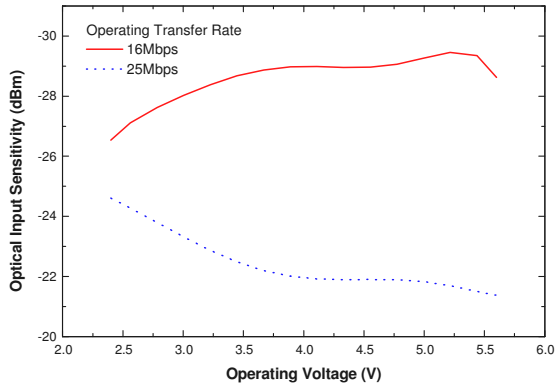
(1) General application circuit for  $V_{cc}=3V$     (2) General application circuit for  $V_{cc}=5V$



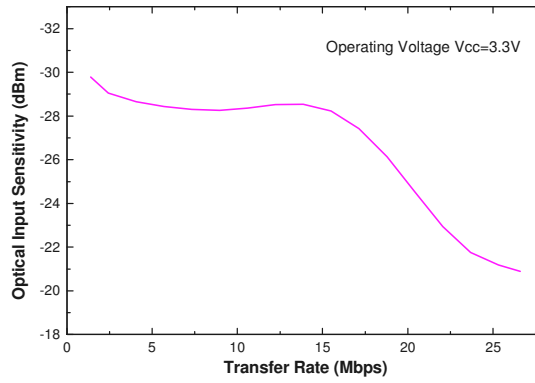
Note: For having good coupling, the C1,C2 capacitor must be placed within 7mm

## Typical Electro-Optical Characteristics Curves

\*Fig.4 Power supply voltage vs. Minimum receiver power

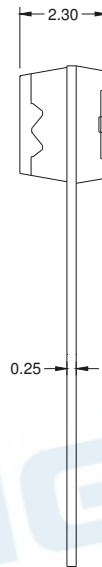
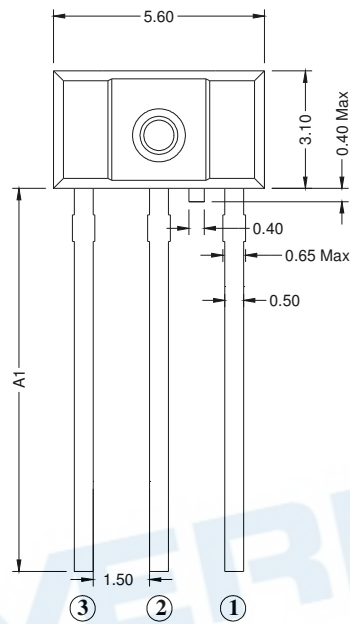
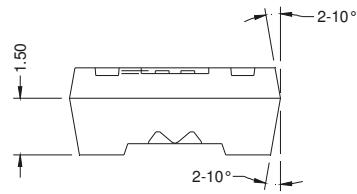


\*Fig.5 Transfer rate vs. Minimum receiver power



EVERLIGHT

Package Dimension



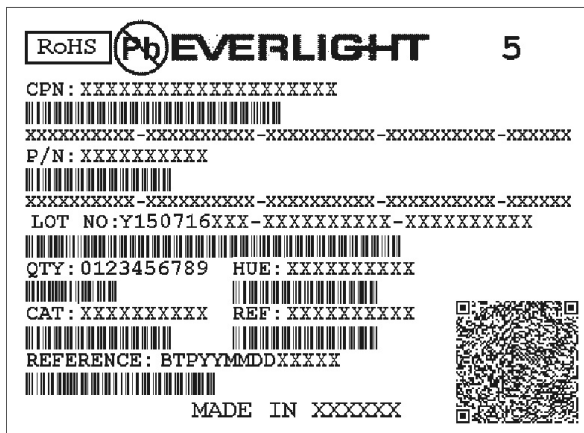
Pin Function

- ① Vout
- ② GND
- ③ Vcc

- Notes:** 1. All dimensions are in mm.  
 2. General Tolerance:  $\pm 0.10$  mm  
 3. Device Selection Table:

Device Name	Pin Length A1 (mm)
PLR162	10.10 $\pm$ 0.30
PLR162/S1	8.55 $\pm$ 0.20
PLR162/S2	4.61 $\pm$ 0.10

## 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
- MADE IN XXXXXX: Place of production

## Packing Quantity Specification

1. 500 or 1000 pcs/bag
2. 8 bag/box

## Notes

1. Above specification may be changed without notice. Everlight Americas will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. Everlight Americas assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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