



## ZPLR135/T8

### Photolink- Fiber Optic Receiver

#### Descriptions

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.

#### 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 16Mbps)

#### 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

\* Soldering time ≤ 10 seconds.

## Recommended Operating Conditions

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

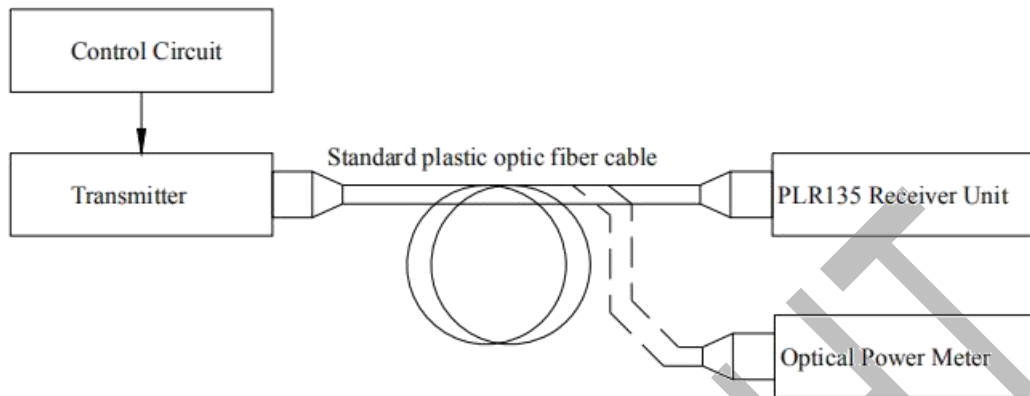
## Electro-Optical Characteristics (Ta=25°C, Vcc=5.0V, 16Mbps)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Peak sensitivity wavelength	$\lambda_p$	-	-	650	-	nm
Transmission Distance	d	*1	0.2	--	5	m
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	$\Delta tw$	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	-	16	Mb/s

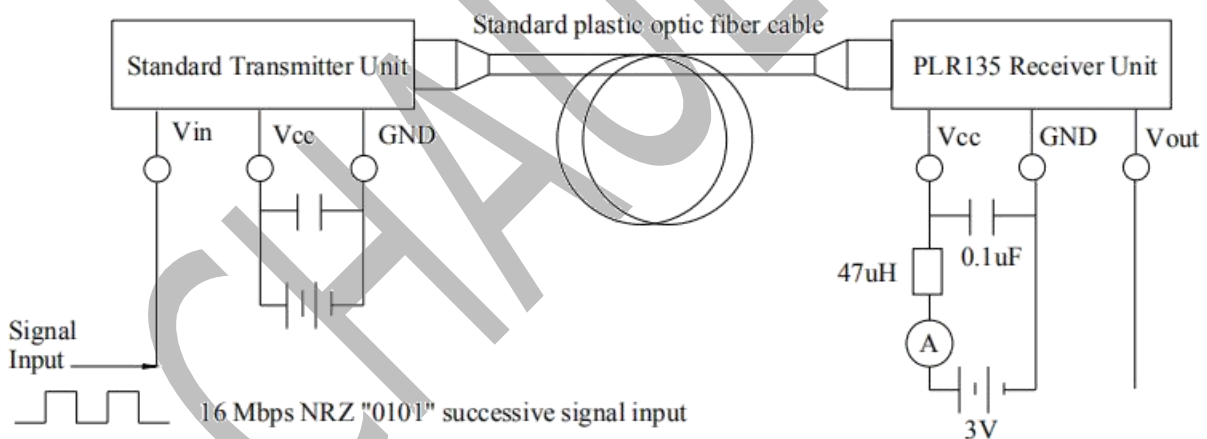


## Measuring Method

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

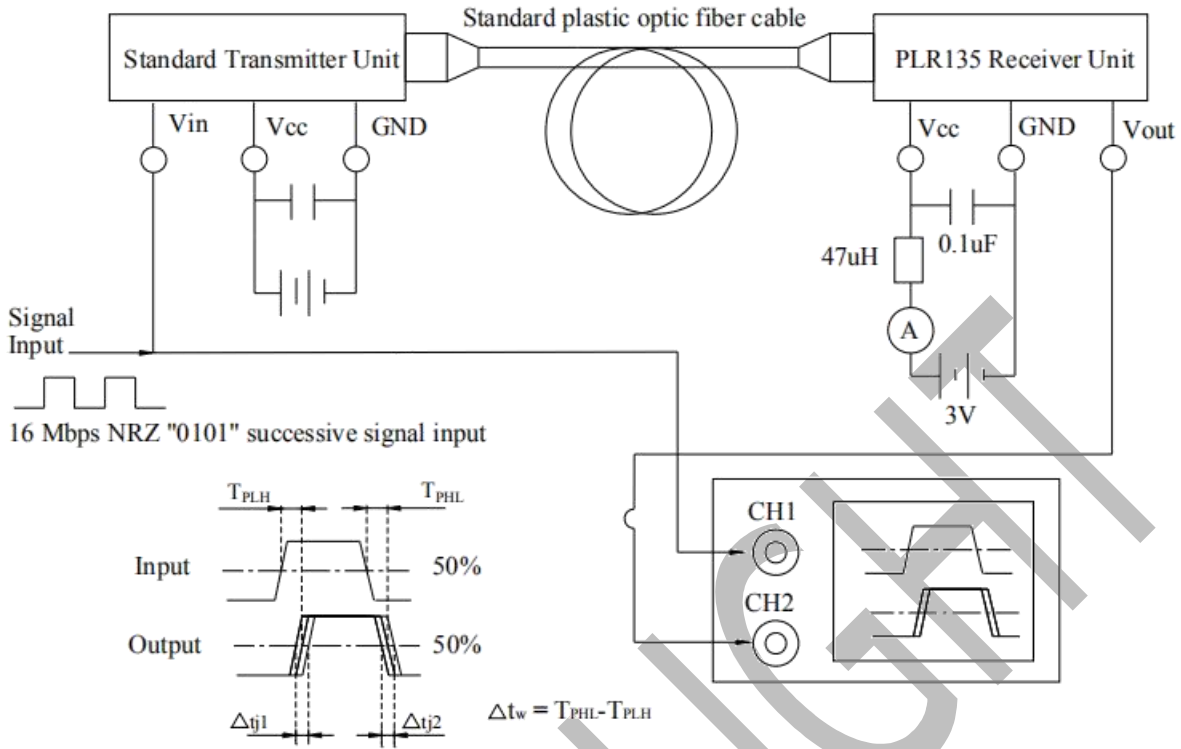


\*Fig.2 Measuring Method of Dissipation Current



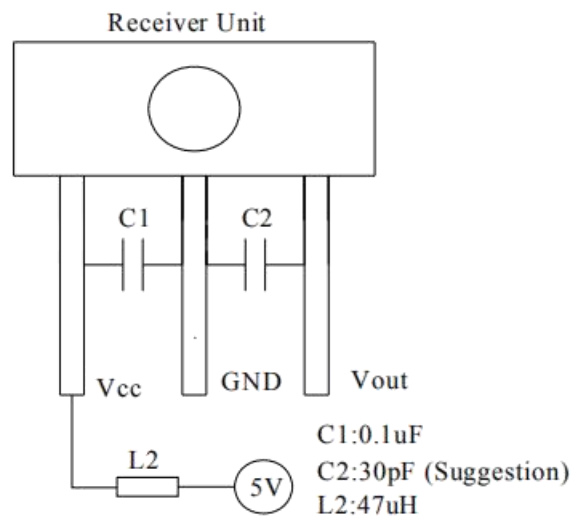
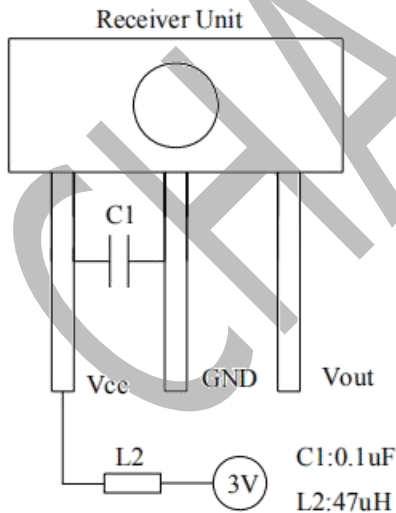


\*Fig.3 Measuring Method of Output Voltage, Pulse and Jitter



## Application Circuit

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

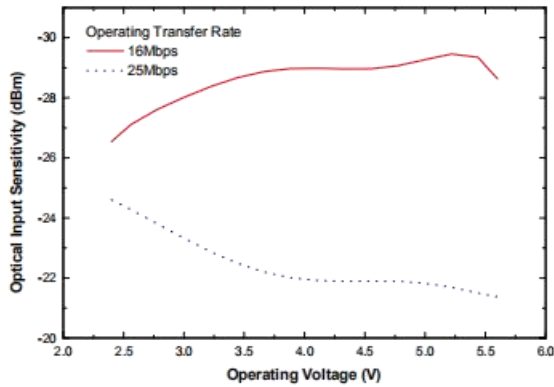


(2) Note: For having good coupling, the C1,C2 capacitor must be placed within 7mm

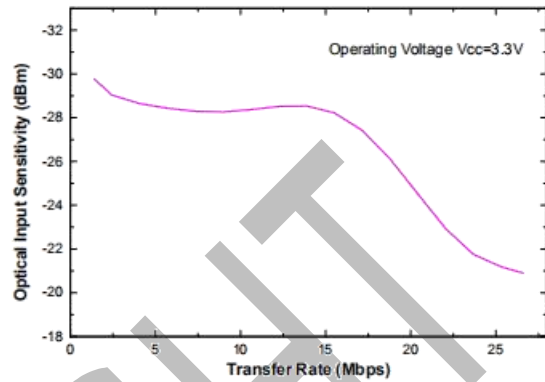


## Typical Electro-Optical Characteristics Curves

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



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



(3) Note: Before using the PLR135 device, please confirm the minimum sensitivity at different operating voltage and transmission rate.

## Packing Quantity Specification

1. 50 pcs/tube
2. 20 tubes/box
3. 4 boxes/carton

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