

# Technical Data Sheet

## Photo link Light Receiver Unit

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**PLR131**

### Features

1. High PD sensitivity optimized for red light
2. Data Rate up to 13.2Mbps at least (NRZ signal)
3. Low power consumption for extended battery life
4. Built-in threshold control for improved noise Margin
5. Pb Free

### 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 with data rate up to 13.2Mbps at least.

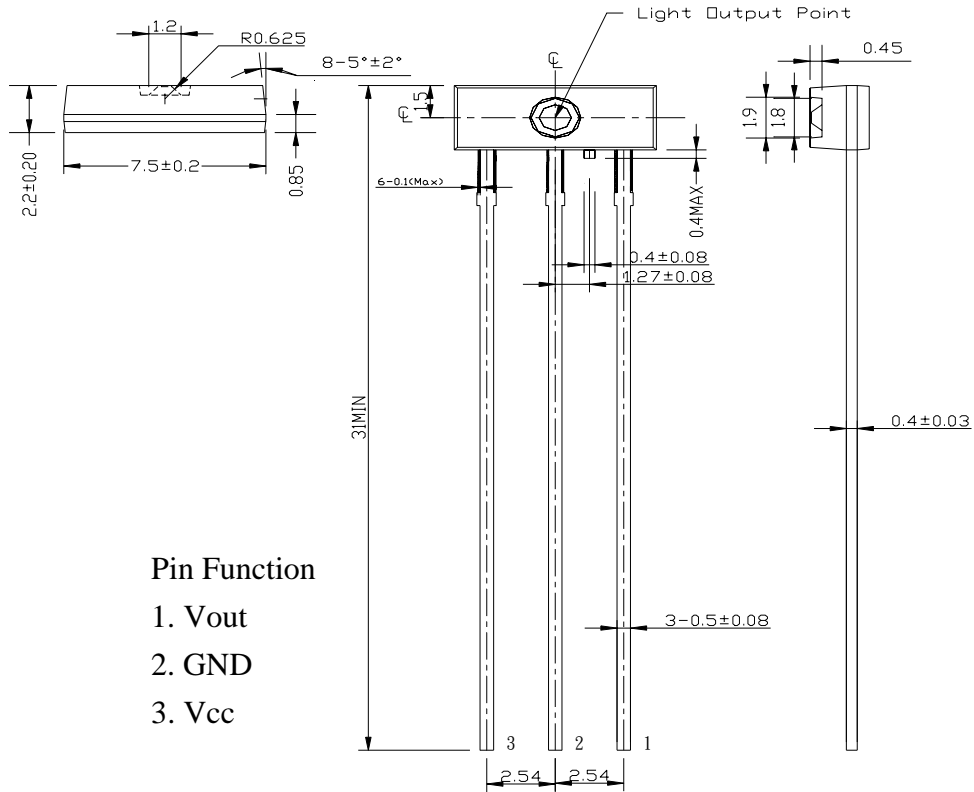
The unit is operated at 5V and the signal output is TTL compatible with high performance at low power consumption.



### Applications

1. Digital Optical Data-Link
2. Dolby AC-3 Digital Audio Interface

**Package Dimensions**



- Notes :** 1.All dimensions are in millimeters.  
2.General Tolerance :±0.2mm

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

Parameter	Symbol	Rating	Unit
Supply Voltage	Vcc	6	V
Output Voltage	Vout	Vcc+0.3	V
Storage Temperature	Tstg	-30 to 80	°C
Operating Temperature	Topr	-20 to 70	°C
Soldering Temperature	Tsol	260*	°C

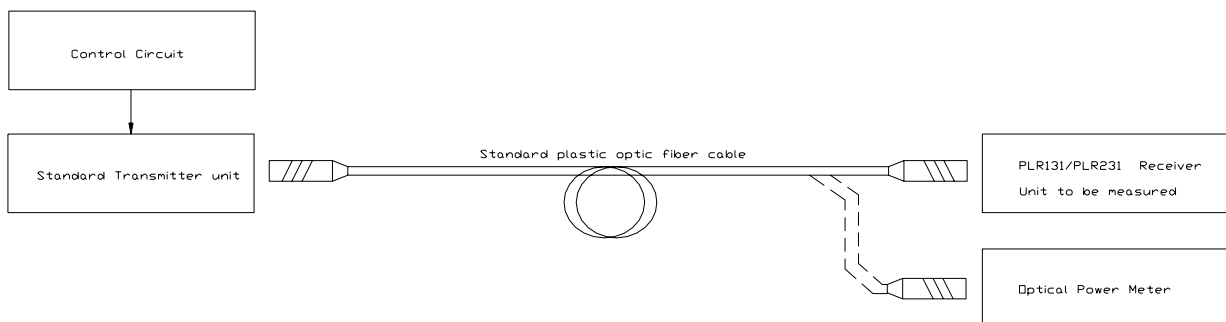
\* Soldering time ≤ 10 s.

**Electro-Optical Characteristics(Ta=-10~70°C , Vcc=5±0.25V)**

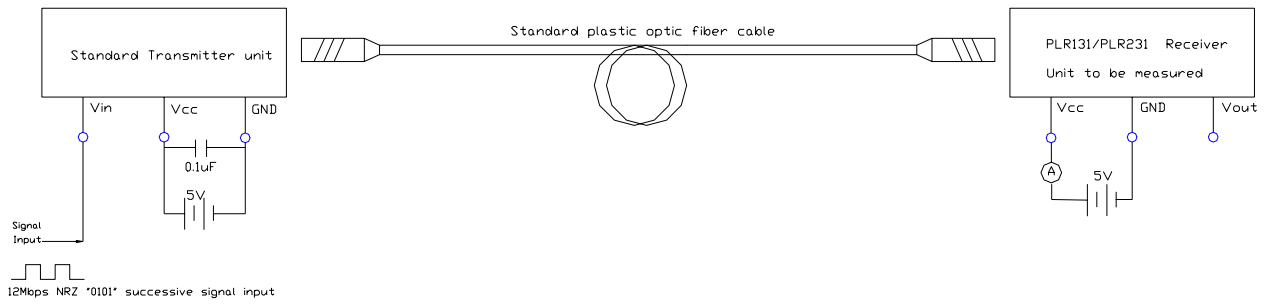
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Power supply voltage	Vcc	-	4.75	5.00	5.25	V
Peak sensitivity wavelength	$\lambda_p$	-	-	660	-	nm
Maximum receiver power	Pc,max	Refer to Fig.1	-	-	-14	dBm
Minimum receiver power	Pc,min	Refer to Fig.1	-24	-	-	dBm
Dissipation current	Icc	Refer to Fig.2	-	4	12	mA
High level output voltage	VOH	Refer to Fig.3	2.4	4.8	-	V
Low level output voltage	VOL	Refer to Fig.3	-	0.2	0.4	V
Rise time	tr	Refer to Fig.3		10	30	ns
Fall time	tf	Refer to Fig.3		15	30	ns
Propagation delay Low to High	t <sub>pLH</sub>	Refer to Fig.3	-	-	120	ns
Propagation delay High to Low	t <sub>pHL</sub>	Refer to Fig.3	-	-	120	ns
Pulse Width Distortion	$\Delta tw$	Refer to Fig.3	-30	-	+30	ns
Jitter	$\Delta tj$	Refer to Fig.4 · Pc=-15dBm	-	1	30	ns
		Refer to Fig.4 · Pc=-22dBm	-	-	30	ns
Transfer rate	T	NRZ signal	0.1	-	13.2	Mb/s

**Measuring Method**

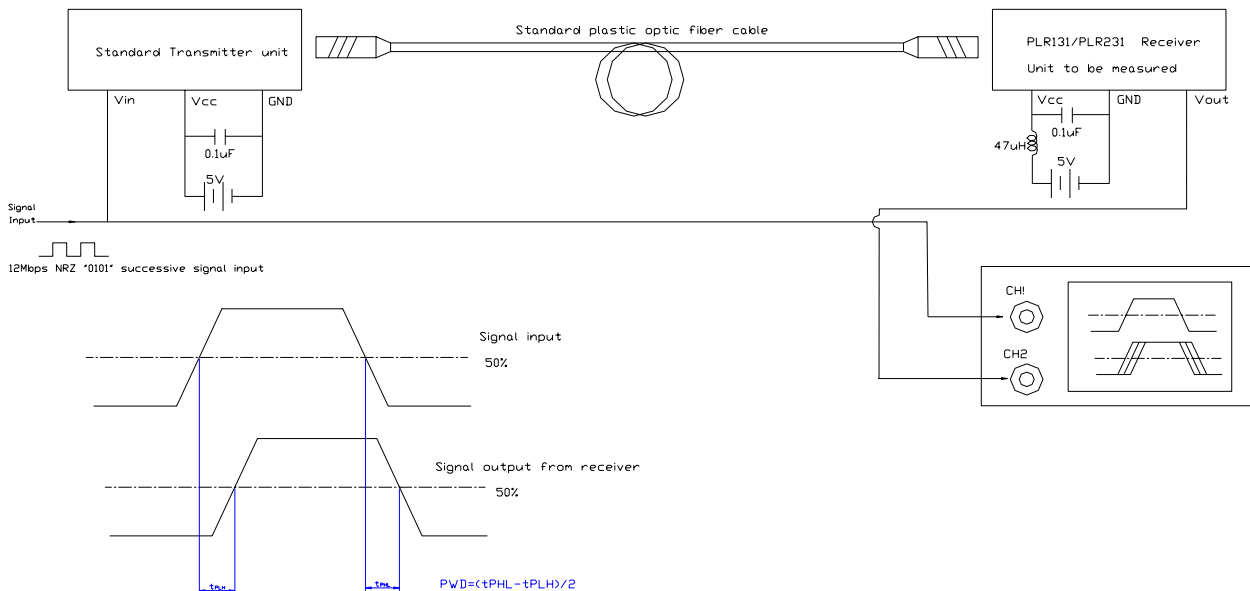
\*Fig.1 Measuring Method of Maximum and Minimum Input Power that Receiver Unit Need



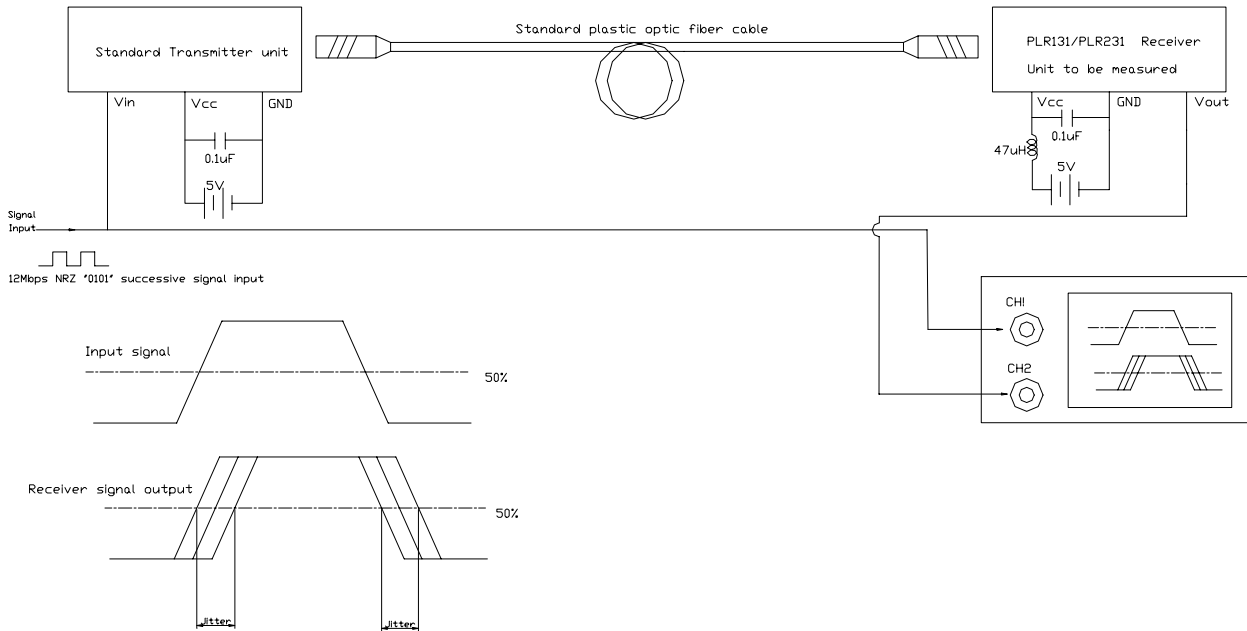
\*Fig.2 Measuring Method of Dissipation Current



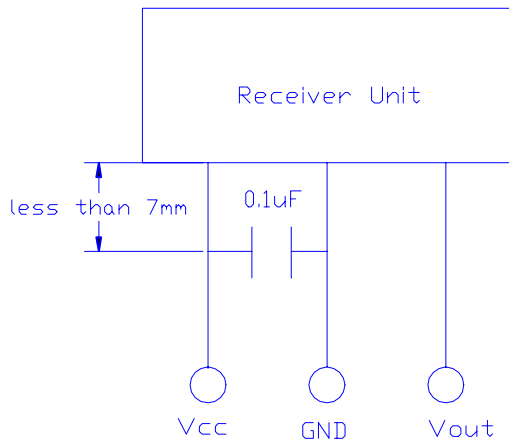
\*Fig.3 Measuring Method of Output Voltage and Pulse



\*Fig.4 Measuring Method of Jitter



**Application Circuit**



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