

# APPROVAL SHEET

DATE: 11/12/2009

<b>cosmo</b> ELECTRONICS CORPORATION	Photolink : <b>KPLR1320M30</b>	NO.60F01012	REV.
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## FIBER OPTIC Receiver Module

### Features

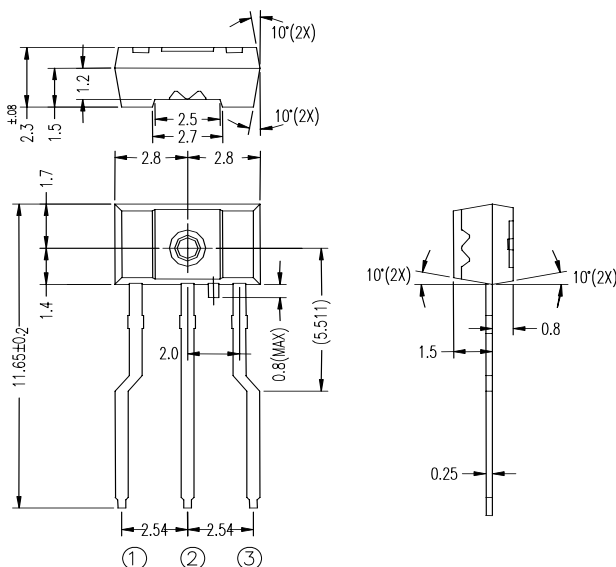
- TTL interface compatible.
- 16Mbps data rate(NRZ Signal).
- Directly connectable to demodulation IC.
- Supply voltage 3.3V/ 5V equipment.

### Applications

- Audio equipment .
- DVD,CD,MD player .
- Automobile.
- Sound card.
- Set top box.
- PC,Notebook.

### Outline Dimensions

(Unit:mm)



#### Pin Connection

1. Vcc
2. GND
3. Vout

注1. 無指定尺寸公差部分: ±0.2mm

Note1. General dimensions tolerance: ±0.2mm

注2. 無指定角度公差部分: ±3°

Note2. General angle tolerance: ±3°

注3. 無指定Corner R: Max 0.4mm

Note3. General corner: Max 0.4mm

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## 1. Maximum Ratings (Ta=25°C, Vcc=3.3V/5V)

Parameter	Symbol	Rating	Unit
Storage Temperature	T <sub>stg</sub>	-40~85	°C
Operating Temperature	T <sub>opr</sub>	-20~70	°C
Supply Voltage	V <sub>CC</sub>	-0.5~7	V
Input Voltage	V <sub>IN</sub>	-0.5~V <sub>CC</sub> +0.5	V
Soldering Temperature	T <sub>sol</sub>	260 <sup>(Note 1)</sup>	°C

Note 1 : Soldering time  $\leq$  10 seconds (At a distance of 1 mm from the package) .

## 2. Recommended Operating Conditions (Ta=25°C, Vcc=3.3V/5V)

Parameter	Symbol	Min	Typ.	Max	Unit
Supply Voltage	V <sub>CC</sub>	2.7	-	5.25	V
Operating transfer rate	T	0.1	-	16	Mbps
Input optical power level	PI	-27	-	-14.5	dBm

## 3. Electrical and Optical Characteristics :Receiver (Ta=25°C, Vcc=3.3V/5V)

Parameter	Symbol	Condition	Min	Typ.	Max	Unit
Operating transfer rate	T	NRZ Signal <sup>(Note 2)</sup>	0.1	-	16	Mb/s
Operating voltage	V <sub>CC</sub>		2.7	3.0	5.25	V
Optical Input Sensitivity <sup>(Note 3)</sup>	PI		-27	-	-14.5	dBm
Peak Emission Wavelength	$\lambda_p$		-	650	-	nm
Dissipation Current	I <sub>CC</sub>	Refer to Fig.(1)	-	4	13	mA
High Level Output Voltage	V <sub>OH</sub>	Refer to Fig.(2)	2.1	-	-	V
Low Level Output Voltage	V <sub>OL</sub>	Refer to Fig.(2)	-	-	0.4	V
Rise time	t <sub>r</sub>	Refer to Fig.(2)	-	-	20	ns
Fall time	t <sub>f</sub>	Refer to Fig.(2)	-	-	20	ns
Low->High Propagation delay time	t <sub>PLH</sub>	Refer to Fig.(2)	-	-	180	ns
High -> Low Propagation delay time	t <sub>PHL</sub>	Refer to Fig.(2)	-	-	180	ns
Pulse Width Distortion	$\Delta t_w$	Refer to Fig.(2)	-20	-	20	ns
Jitter Time	$\Delta t_j$	Refer to Fig.(3)	-	-	15	ns

Note 2 : LED is ON when input signal is high, and OFF when it is low.

The duty factor must be maintained between 25 to 75%.

Note 3 : Measure with a standard optical fiber, peak value.

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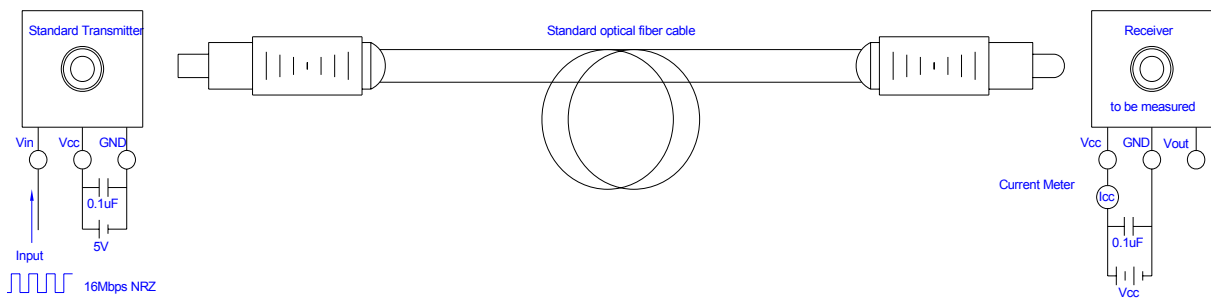
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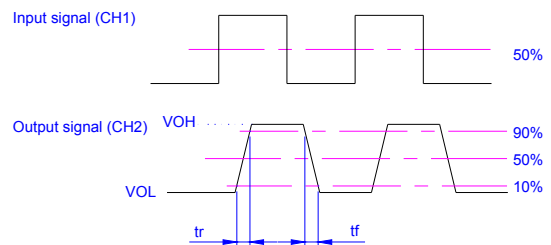
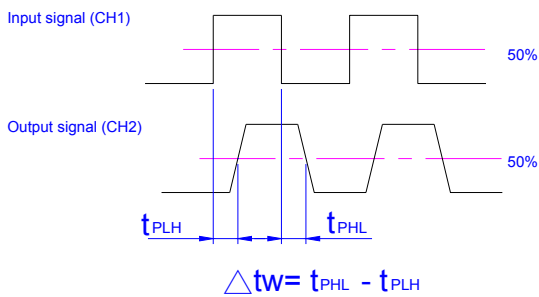
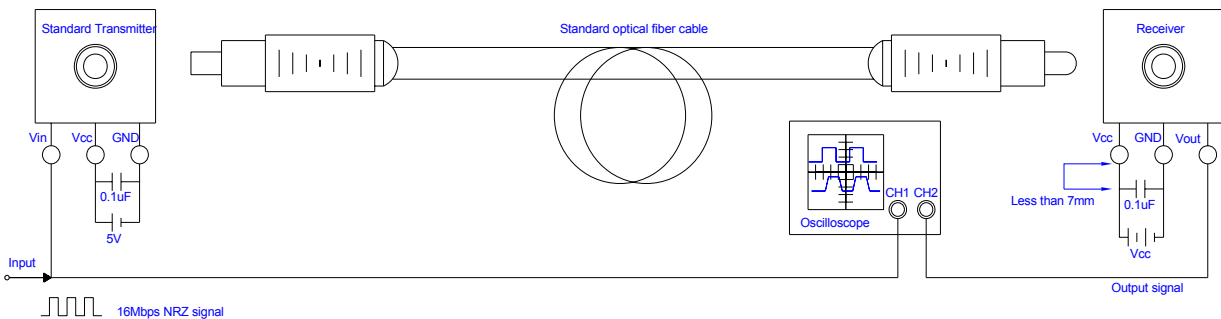
## 4. Measuring method

### (1). Measuring Supply Current

	Input test Conditions	Measuring method
Supply Voltage	Vcc=3.0V	DC Average current
Fiber coupling light output	Pc=-14.5dBm	
Standard transmitter input signal	16Mbps NRZ	



### (2). Measuring method of Output Voltage and Pulse response

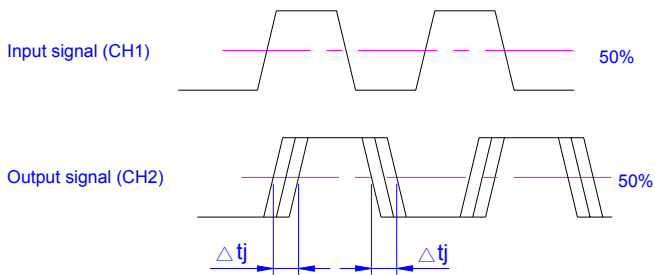
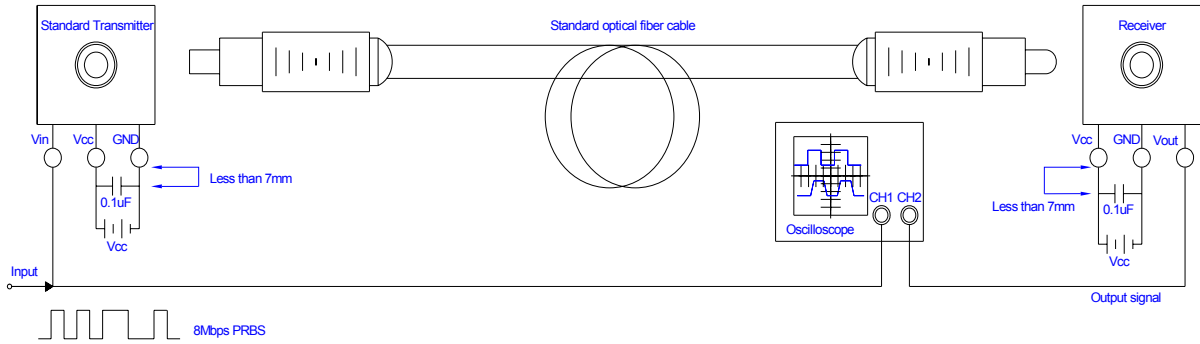


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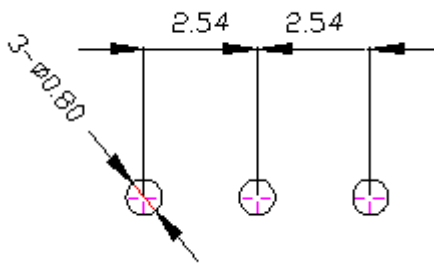
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### (3).Measuring method of Jitter



### 5.Recommended PCB Layout



- Notes:**
- 1.Unit:mm
  - 2.tolerance:±0.3mm