

# APPROVAL SHEET

DATE: 11/12/2009

<b>cosmo</b> ELECTRONICS CORPORATION	Photolink : <b>KPLT5000M9X</b>	NO.60F20005 SHEET 1 OF 4	REV. 1

## FIBER OPTIC TRANSMITTING MODULE FOR DIGITAL AUDIO EQUIPMENT

### Features

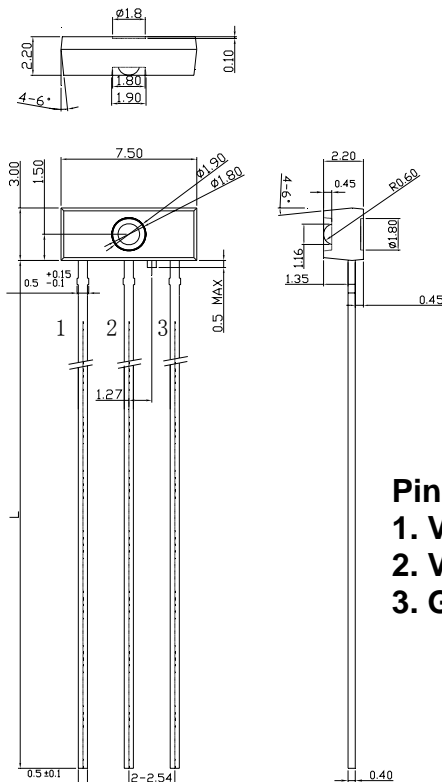
- TTL interface.
- LED is driven by differential circuit.
- A Self-tapping hole for easy attachment to audio Equipment panels.

### Applications

- Audio equipment.
- DVD player.
- Automobile.

### Outline Dimensions

(Unit:mm)



#### Pin Connection

1. Vin
2. Vcc
3. GND

注1. 無指定尺寸公差部分:  $\pm 0.2\text{mm}$

Note1. General dimensions tolerance:  $\pm 0.2\text{mm}$

注2. 無指定角度公差部分:  $\pm 3^\circ$

Note2. General angle tolerance:  $\pm 3^\circ$

注3. 無指定Corner R: Max 0.4mm

Note3. General corner: Max 0.4mm

#### Device Selection Table

Device Name	Pin Length L(mm)
KPLT2500M90	29.0 $\pm$ 0.5(MAX)
KPLT2500M91	28.5 $\pm$ 0.5
KPLT2500M92	23.5 $\pm$ 0.5

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<b>cosmo</b> ELECTRONICS CORPORATION	Photolink :	NO.60F20005	REV.
	KPLT5000M9X	SHEET 2 OF 4	1

## 1. Maximum Ratings ( Ta=25°C )

Parameter	Symbol	Rating	Unit
Storage Temperature	T <sub>stg</sub>	-40~+85	°C
Operating Temperature	T <sub>opr</sub>	-30~+80	°C
Power Dissipation	P <sub>max</sub>	120	mW
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

Parameter	Symbol	Min	Typ.	Max	Unit
Supply Voltage	V <sub>CC</sub>	2.70	5.0	5.5	V
High-Level Input Voltage	V <sub>IH</sub>	2.0	-	V <sub>CC</sub>	V
Low-Level Input Voltage	V <sub>IL</sub>	0	-	0.8	V

## 3. Electrical and Optical Characteristics ( Ta=25°C , V<sub>CC</sub>=5V )

Parameter	Symbol	Condition	Min	Typ.	Max	Unit
Data Rate		NRZ Signal <sup>(Note 2)</sup>	DC	-	50	Mb/s
Fiber Output Power <sup>(Note 3)</sup>	P <sub>f</sub>		-21	-	-15	dBm
Peak Emission Wavelength	$\lambda_p$		630	-	690	nm
Current Consumption	I <sub>CC</sub>		-	5	8	mA
High Level Input Voltage	V <sub>IH</sub>		2.0	-	-	V
Low Level Input Voltage	V <sub>IL</sub>		-	-	0.8	V
Low->High Propagation delay time	t <sub>PLH</sub>				50	ns
High -> Low Propagation delay time	t <sub>PHL</sub>				50	ns
Pulse Width Distortion	$\Delta tw$	25Mbps NRZ Signal	-6	-	6	ns
Jitter Time	$\Delta tj$				10	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.

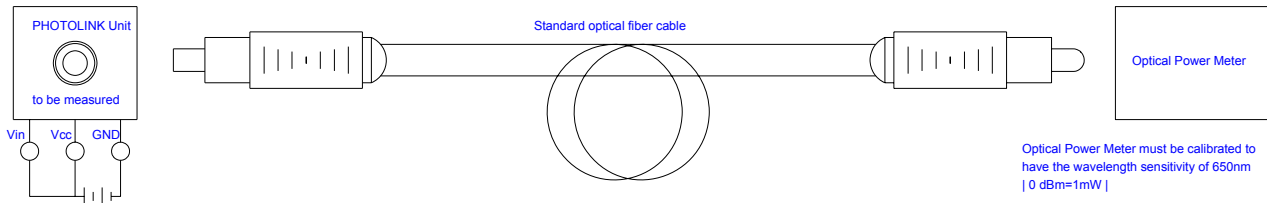
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DATE: 11/12/2009

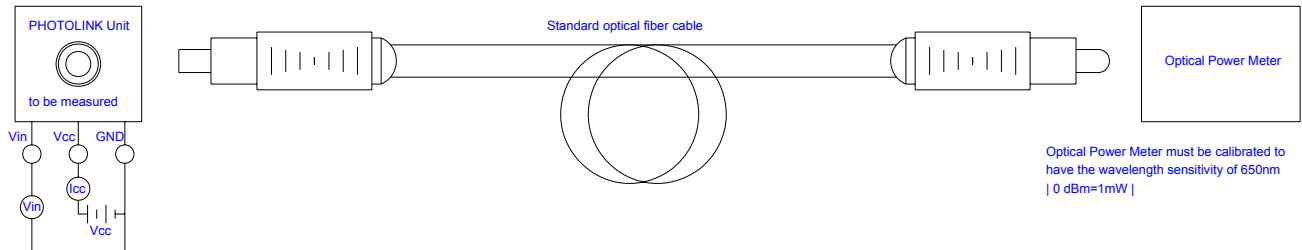
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		SHEET 3 OF 4	1

## 4. Measuring method

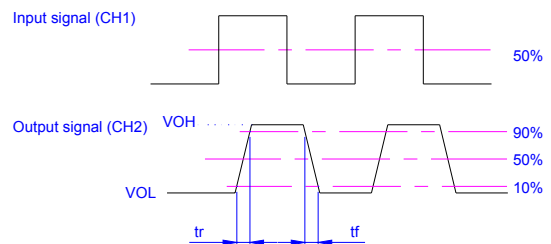
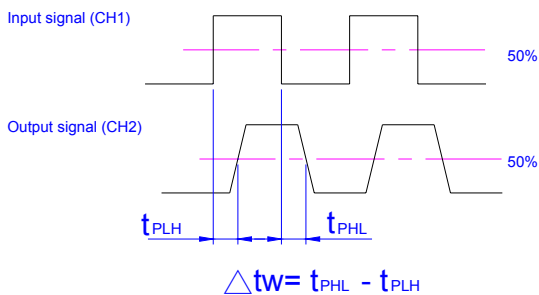
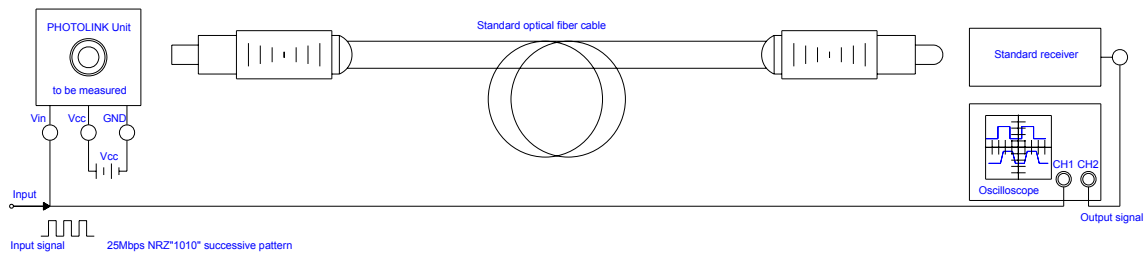
### (1). Measuring method of optical output coupling fiber



### (2). Measuring method of power dissipation current and input voltage



### (3). Measuring method of Pulse response

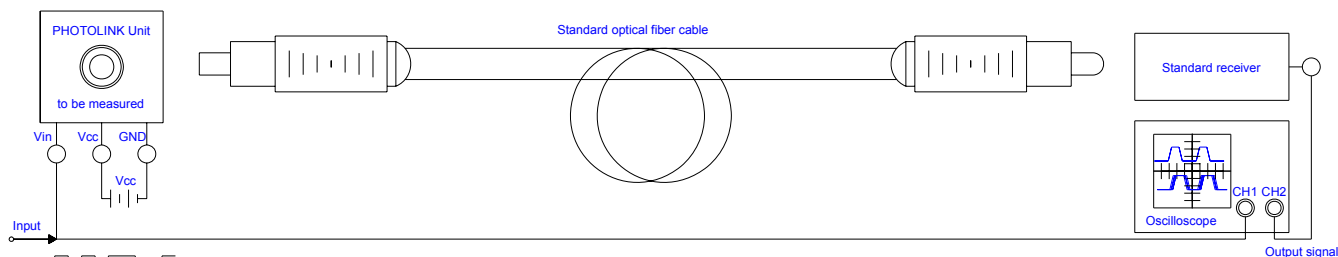


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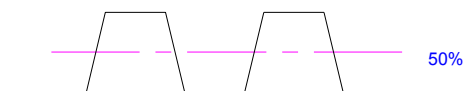
DATE: 11/12/2009

<b>cosmo</b> ELECTRONICS CORPORATION	Photolink : <b>KPLT5000M9X</b>	NO.60F20005	REV.
		SHEET 4 OF 4	1

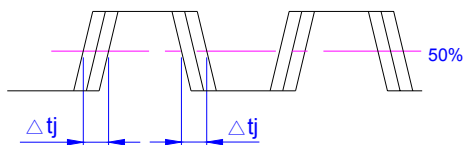
## (4).Measuring method of Jitter



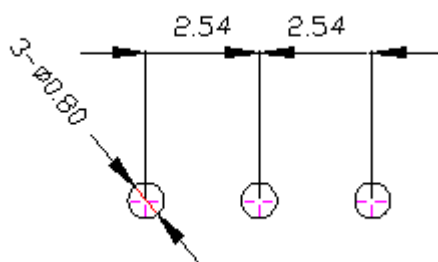
Input signal (CH1)



Output signal (CH2)



## 5.Recommended PCB Layout



Notes:

1.Unit:mm

2.tolerance: $\pm 0.3$ mm