APPROVAL SHEET

cosmo ELECTRONICS CORPORATION	Photolink : **KPLT1320M40**	NO.60F00024	REV.
		SHEET 1 OF 4	1

FIBER OPTIC TRANSMITTING MODULE
FOR DIGITAL AUDIO EQUIPMENT

Features

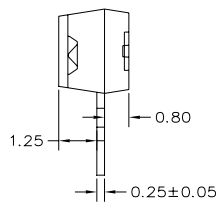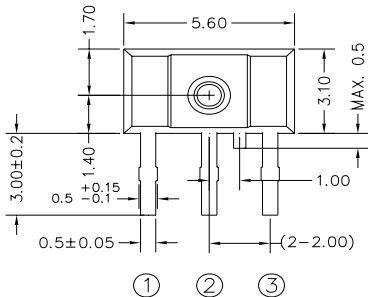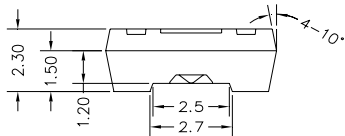- ● TTL interface.

- ● 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)

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

Pin Connection
1. Vin
2. Vcc
3. GND

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1. Maximum Ratings（Ta=25℃）

Parameter	Symbol	Rating	Unit
Storage Temperature	T_{stg}	-40~+85	℃
Operating Temperature	T_{opr}	-30~+80	℃
Power Dissipation	P_{max}	120	mW
Supply Voltage	Vcc	-0.5~7	V
Input Voltage	V_{IN}	-0.5~Vcc+0.5	V
Soldering Temperature	T_{sol}	260 [Note 1]	℃

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

2. Recommended Operating Conditions

Parameter	Symbol	Min	Typ.	Max	Unit
Supply Voltage	V_{CC}	2.70	5.0	5.5	V
High-Level Input Voltage	V_{IH}	2.0	-	VCC	V
Low-Level Input Voltage	V_{IL}	0	-	0.8	V

3. Electrical and Optical Characteristics（Ta=25℃，V_{CC}=5V）

Parameter	Symbol	Condition	Min	Typ.	Max	Unit
Data Rate		NRZ Signal [Note 2]	DC	-	16	Mb/s
Fiber Output Power [Note 3]	Pf		-21	-	-15	dBm
Peak Emission Wavelength	λp		630	-	690	nm
Current Consumption	Icc		-	5	8	mA
High Level Input Voltage	V_{IH}		2.0	-	-	V
Low Level Input Voltage	V_{IL}		-	-	0.8	V
Low->High Propagation delay time	t_{PLH}				100	ns
High -> Low Propagation delay time	t_{PHL}				100	ns
Pulse Width Distortion	△tw	8Mbps NRZ Signal	-20	-	20	ns
Jitter Time	△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%.
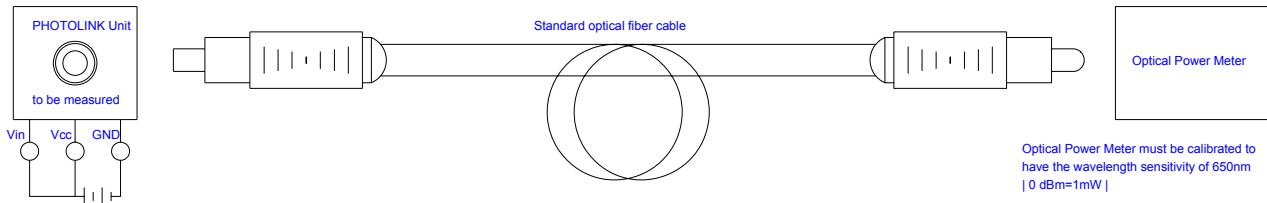Note 3：Measure with a standard optical fiber, peak value.
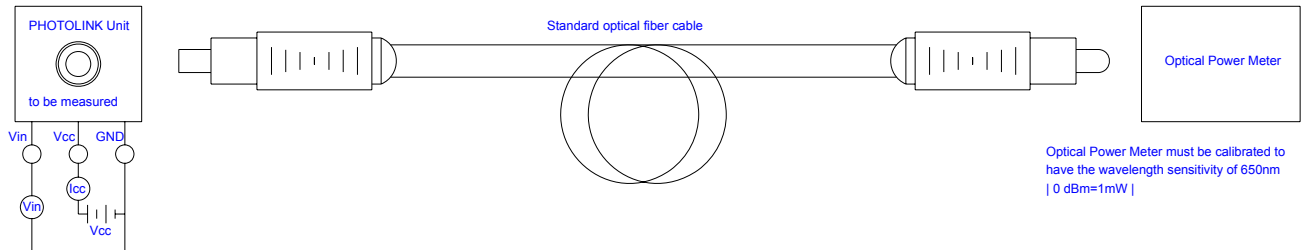
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Photolink :
KPLT1320M40

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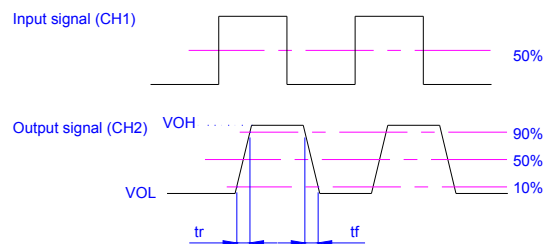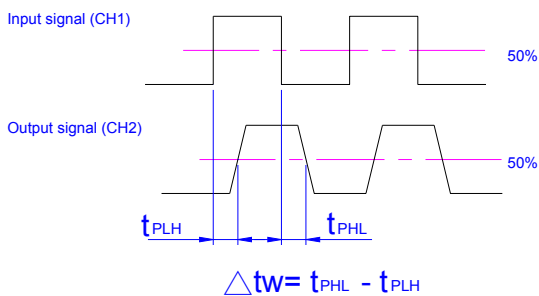SHEET 3 OF 4 | 1

4. Measuring method

(1).Measuring method of optical output coupling fiber

PHOTOLINK Unit
to be measured
Vin Vcc GND

Standard optical fiber cable

Optical Power Meter

Optical Power Meter must be calibrated to have the wavelength sensitivity of 650nm | 0 dBm=1mW |

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

PHOTOLINK Unit
to be measured
Vin Vcc GND
Vin Icc Vcc

Standard optical fiber cable

Optical Power Meter

Optical Power Meter must be calibrated to have the wavelength sensitivity of 650nm | 0 dBm=1mW |

(3).Measuring method of Pulse response
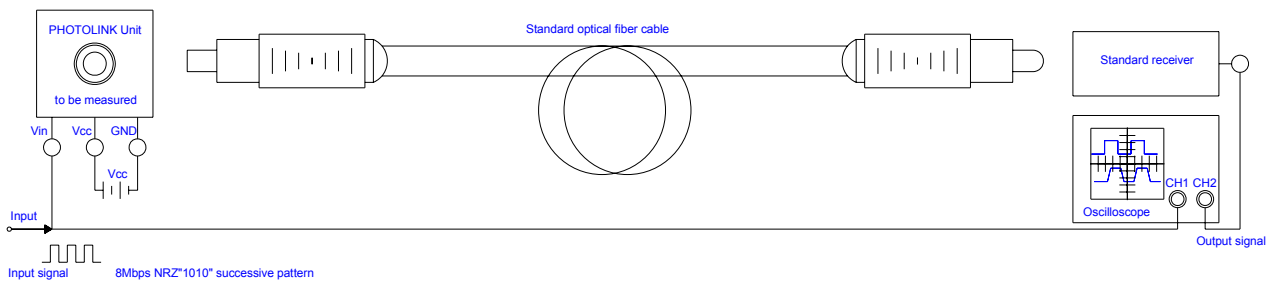
PHOTOLINK Unit
to be measured
Vin Vcc GND
Vcc

Standard optical fiber cable

Standard receiver

CH1 CH2
Oscilloscope

Input

Output signal

Input signal   8Mbps NRZ"1010" successive pattern

Input signal (CH1) 50%

Output signal (CH2) 50%

t_{PLH} t_{PHL}

$\triangle tw = t_{PHL} - t_{PLH}$

Input signal (CH1) 50%

Output signal (CH2) VOH 90%
.... 50%
VOL 10%

tr   tf

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(4).Measuring method of Jitter
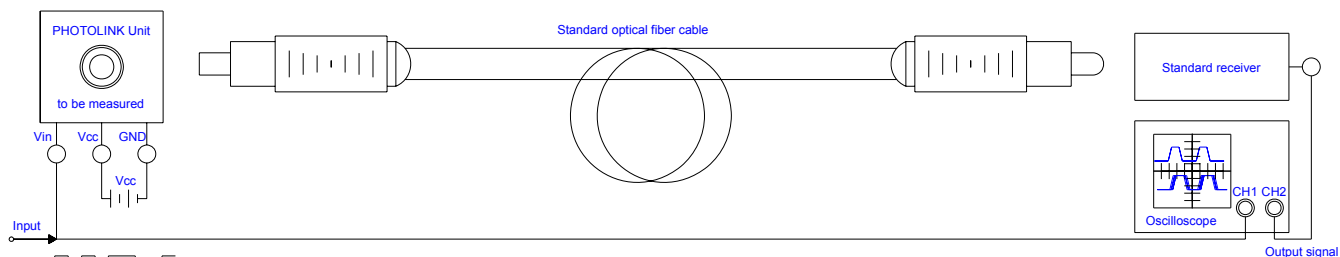

PHOTOLINK Unit
to be measured
Vin Vcc GND
Vcc
Input
1 1 0 0

Standard optical fiber cable

Standard receiver

Oscilloscope CH1 CH2
Output signal

Input signal (CH1)   50%
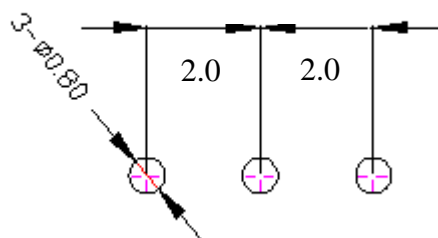
Output signal (CH2)   50%

△tj   △tj
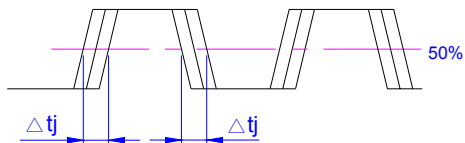
5.Recommended PCB Layout

3-⌀0.80

2.0   2.0

Notes:
1.Unit:mm
2.tolerance:±0.3mm