

# PRODUCT SPECIFICATION

DATE:2/17/2005

|   |                                 |              |      |
|---|---------------------------------|--------------|------|
| <b>cosmo</b><br>ELECTRONICS CORPORATION | Photolink :<br><b>KPLT1320A</b> | NO.60F00008  | REV. |
|   |                                 | SHEET 1 OF 5 | 1    |

## FIBER OPTIC TRANSMITTING MODULE FOR DIGITAL AUDIO EQUIPMENT

### Features

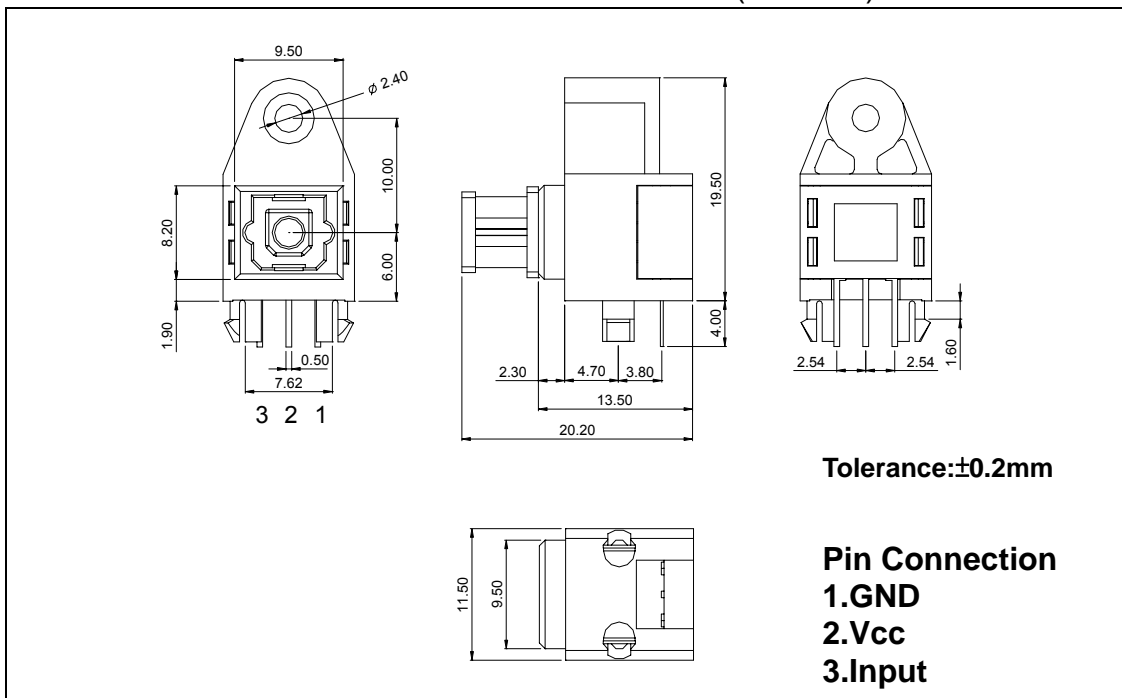
- TTL interface.
- LED is driven by differential circuit.
- A Self-tapping hole for easy attachment to audio Equipment panels.

### Applications

- Audio equipment.
- DVD player.
- Automobile.

### Outline Dimensions

(Unit:mm)



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## 1. Maximum Ratings (Ta=25°C)

| Parameter             | Symbol           | Rating                    | Unit |
|-----------------------|------------------|---------------------------|------|
| Storage Temperature   | T <sub>stg</sub> | -40~80                    | °C   |
| Operating Temperature | T <sub>opr</sub> | -20~70                    | °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> | 4.75 | 5.0  | 5.25            | 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  | -    | 13.2 | Mb/s |
| Transmission Distance                  |                  | Using APF <sup>(Note 3)</sup>  | 0.2 | -    | 5    | m    |
| Fiber Output Power <sup>(Note 4)</sup> | P <sub>f</sub>   |                                | -21 | -    | -15  | dBm  |
| Peak Emission Wavelength               | $\lambda_p$      |                                | 630 | 650  | 690  | nm   |
| Current Consumption                    | I <sub>CC</sub>  |                                | -   | -    | 13   | 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> |                                |     |      | 150  | ns   |
| High -> Low Propagation delay time     | t <sub>PHL</sub> |                                |     |      | 150  | ns   |
| Pulse Width Distortion                 | $\Delta tw$      | 6Mbps NRZ Signal               | -25 | -    | 25   | ns   |
| Jitter Time                            | $\Delta tj$      |                                |     |      | 25   | 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 : All Plastic Fiber (970 / 1000nm) .

Note 4 : Measure with a standard optical fiber, peak value.

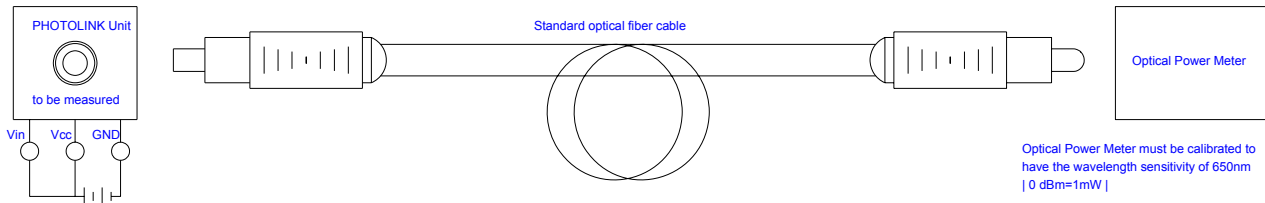
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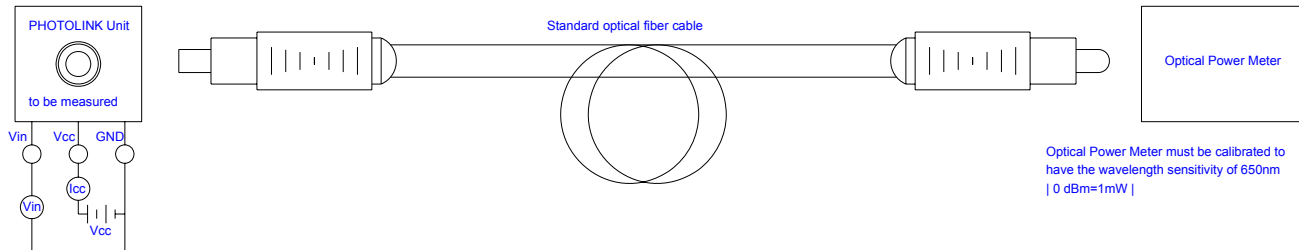
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## 4. Measuring method

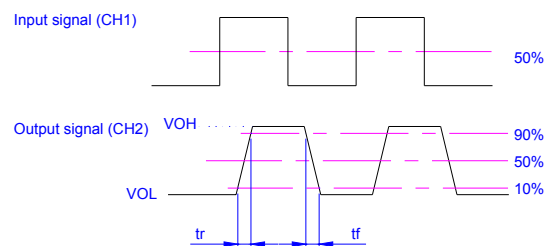
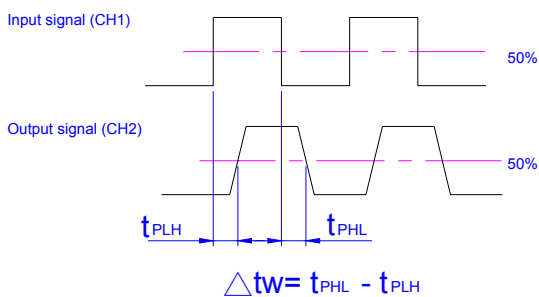
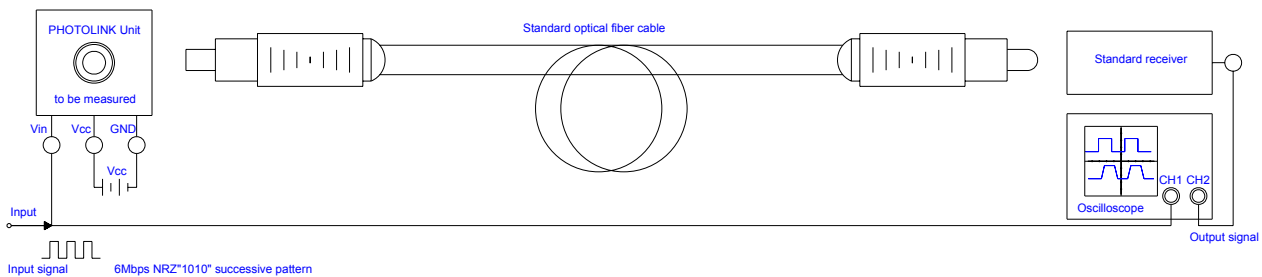
### (1).Measuring method of optical output coupling fiber



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



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

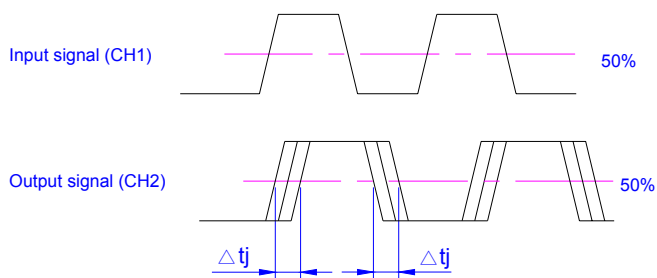
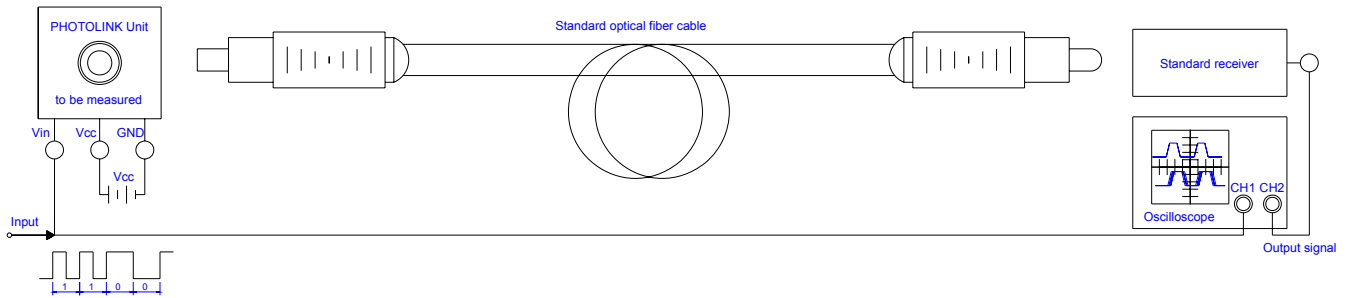


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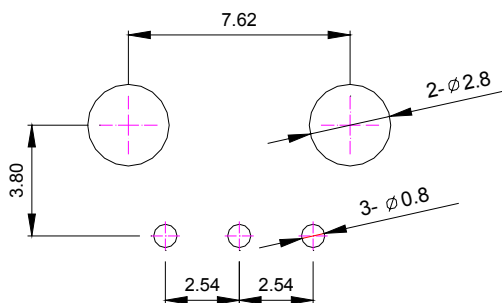
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## (4).Measuring method of Jitter



## 5.Recommended PCB Layout



Notes:  
1.Unit:mm  
2.tolerance: $\pm$ 0.3mm

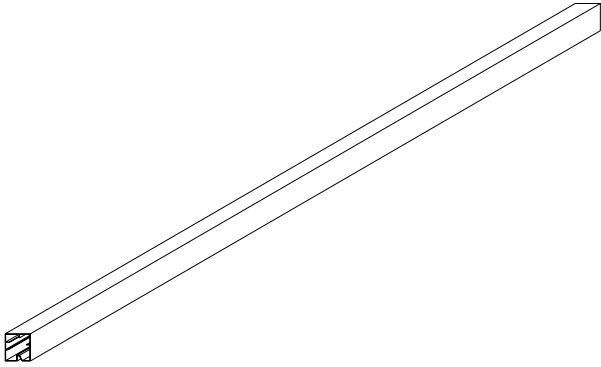
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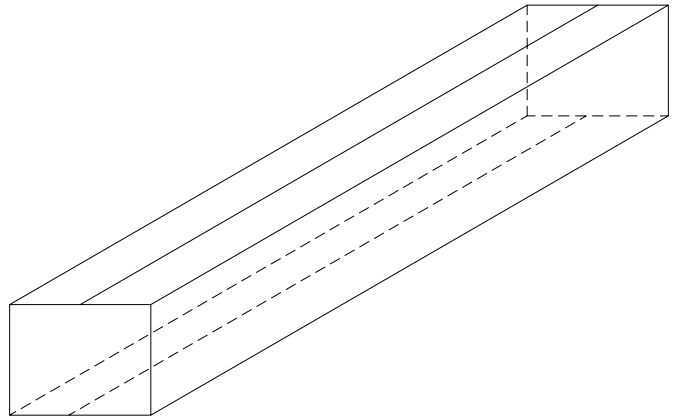
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## 6.Package Information

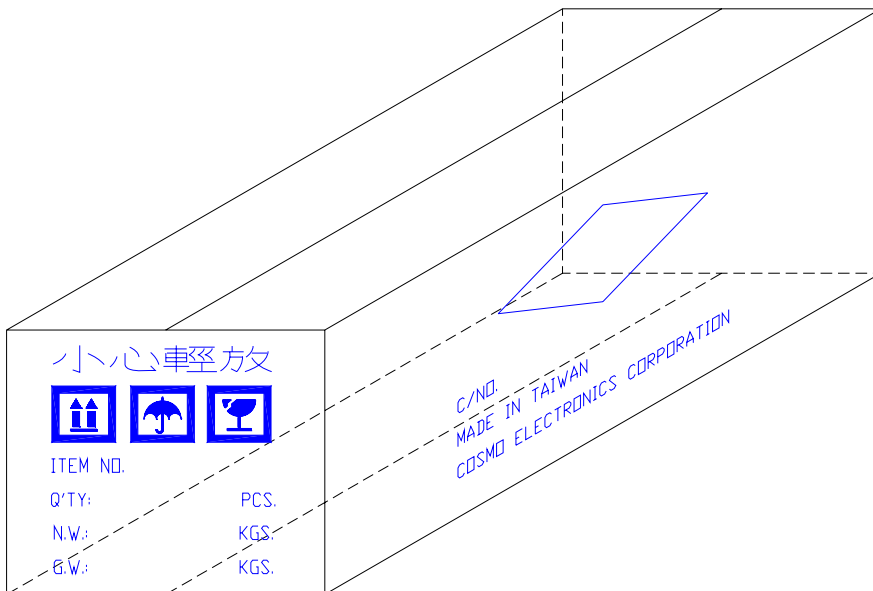
| Item      | Quantity              | Total    | Size(Long*Width*High) |
|-----------|-----------------------|----------|-----------------------|
| Tube      | 50                    | 50 pcs   | 640*24.4*26.4 mm      |
| Inner Box | 20 Tube/Box           | 1000 pcs | 660*156*122 mm        |
| Outer Box | 4 Inner Box/Outer Box | 4000 pcs | 690*342*284 mm        |



50pcs/Tube



1000pcs/Inner Box



4000pcs/Outer Box