

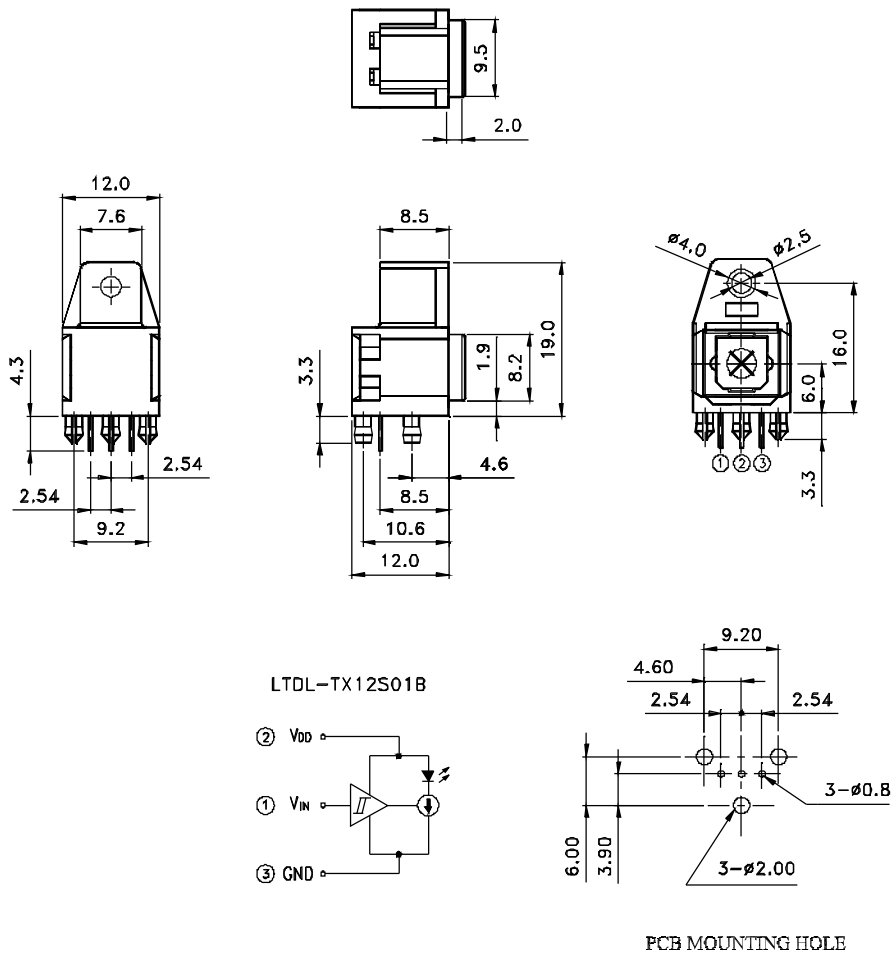
## FEATURES

- \* High speed transmission ( 13.2 Mbps , NRZ code )
- \* Build-in LED driving circuit allows connecting directly to modulation IC for digital audio equipment.
- \* Wide range of operating voltage from 3V to 5V
- \* Same package as fiber optic receiving module LTDL-RX16S01B

## APPLICATIONS

- \* Digital audio system
- \* CD, MD & DVD players

## PACKAGE DIMENSIONS



### NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.3$  mm (.012") unless otherwise noted.
3. In the absence of confirmation by device data sheets, LITE-ON takes no responsibility for any defects that may occur in equipment using any devices shown in catalogs, data book, etc. Contact LITE-ON in order to obtain the latest device data sheets before using any LITE-ON device.



# LITE-ON TECHNOLOGY CORPORATION

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## ELECTRO – OPTICAL CHARACTERISTICS

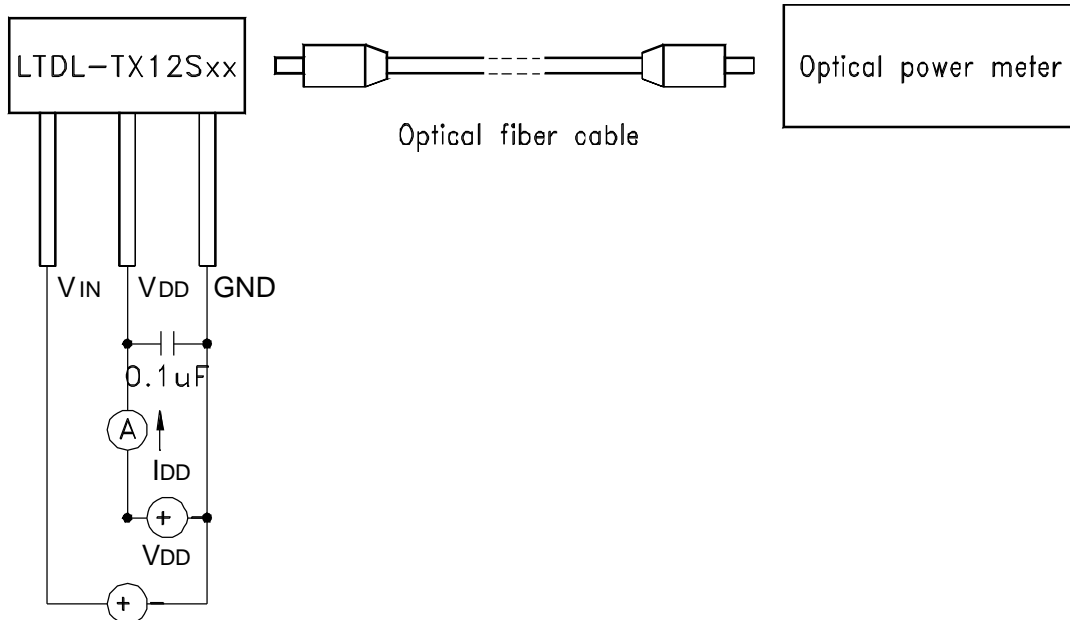
ABSOLUTE MAXIMUM RATINGS AT TA=25°C

| PARAMETER  | MAXIMUM RATING              | UNIT |
|--|-----------------------------|------|
| Supply Voltage (V <sub>DD</sub> )                      | -0.5 ~ +7                   | V    |
| Input Voltage (V <sub>IN</sub> )                       | -0.5 ~ V <sub>DD</sub> +0.5 | V    |
| Operating Temperature Range                            | -20 °C to +70 °C            |      |
| Storage Temperature Range                              | -30 °C to +80 °C            |      |
| Lead Soldering Temperature<br>[1.6mm(.063") From Body] | 260°C for 5 Seconds         |      |

ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

| PARAMETER                           | SYMBOL           | MIN. | TYP. | MAX. | UNIT | TEST CONDITION                  |
|-------------------------------------|------------------|------|------|------|------|---------------------------------|
| Data Rate                           | T <sub>s</sub>   | —    | —    | 13.2 | Mbps | NRZ code                        |
| Operating Voltage                   | V <sub>DD</sub>  | 2.75 | —    | 5.25 | V    |                                 |
| Peak Emission Wavelength            | $\lambda_{Peak}$ | 630  | 650  | 690  | nm   | V <sub>DD</sub> = 2.75 ~ 5.25 V |
| Fiber Coupling Light Output         | P <sub>c</sub>   | -21  | -18  | -15  | dBm  | *1                              |
| Current Consumption                 | I <sub>DD</sub>  | —    | 6    | 8    | mA   | *1                              |
| High Level Input Voltage            | V <sub>IH</sub>  | 2    | —    | —    | V    | *1                              |
| Low Level Input Voltage             | V <sub>IL</sub>  | —    | —    | 0.8  | V    | *1                              |
| “Low → High” propagation delay time | t <sub>PLH</sub> | —    | —    | 166  | ns   | *2                              |
| “High → Low” propagation delay time | t <sub>PHL</sub> | —    | —    | 155  | ns   |                                 |
| Pulse Width Distortion              | $\Delta t_w$     | -18  | —    | +18  | ns   |                                 |
| Jitter                              | $\Delta t_j$     | —    | 1    | 18   | ns   | *2                              |

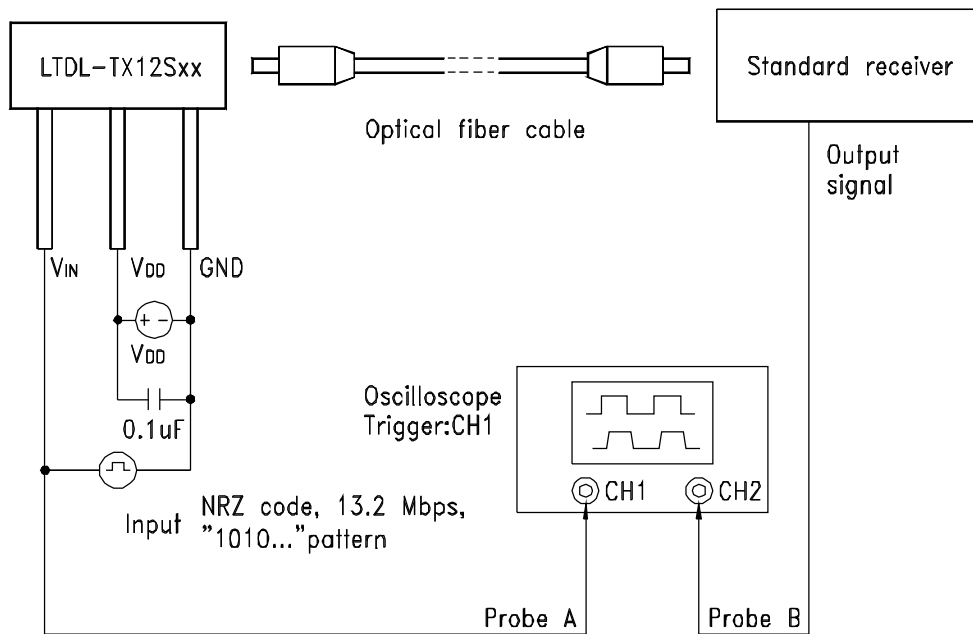
### \* 1 Measuring method of optical output coupling power



- (1) THE SONY POC-10 (POF, 1m) or its equivalent fiber optic cable should be used as the standard fiber optic cable.
- (2) The ANRITSUML910B (receiver MA9802) or its equivalent optical power meter shall be used.
- (3) Set the sensitivity of wavelength of the optical power at 660nm.
- (4) It measures in the condition where did fiber optic cable straight, but the curve of range within contented a performance of the fiber optic cable makes a passable.

| Item            | Measuring Method  |
|-----------------|---|
| P <sub>c</sub>  | Measured on the optical power meter.  |
| I <sub>DD</sub> | Measured on the ammeter.  |
| V <sub>IH</sub> | At the optical fiber coupling light output :<br>-21 ≤ P <sub>c</sub> ≤ -15dBm |
| V <sub>IL</sub> | At the optical fiber coupling light output :<br>P <sub>c</sub> ≤ -36 dBm      |

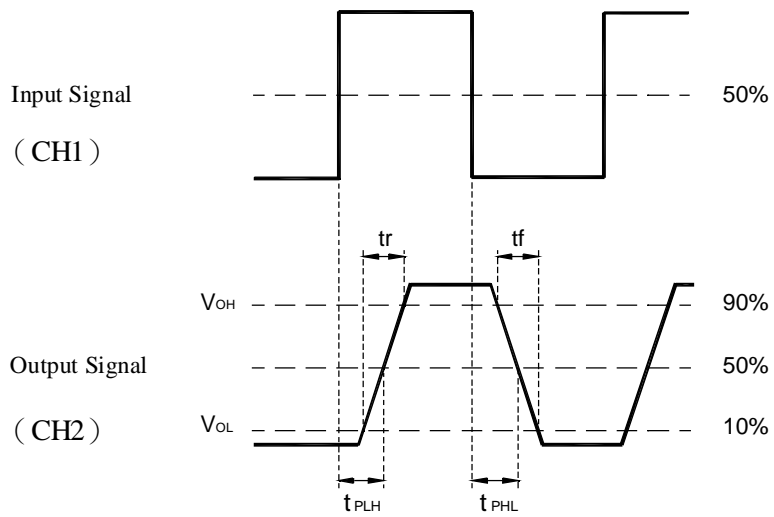
**\* 2 Measuring pulse response**



Note :

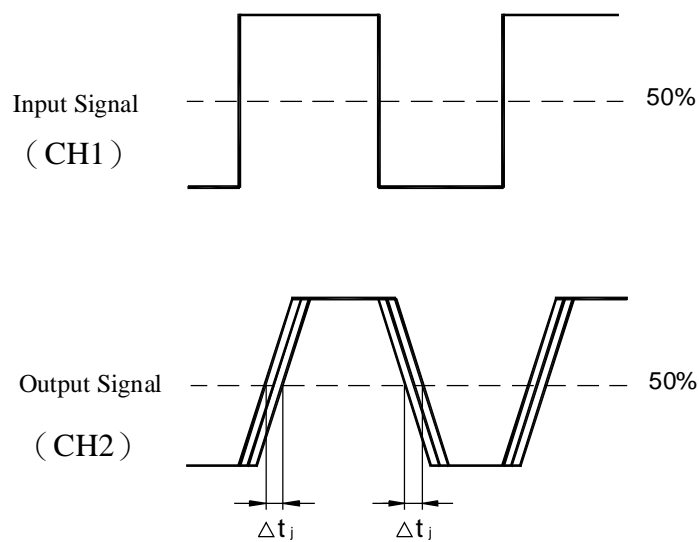
- (1)  $V_{CC} = 2.75V \sim 5.25V$
- (2) Input Singnal : 13.2 M bps NRZ code ,  $V_{IH} \geq 2.0V$  ,  $V_{IL} \geq 0.8V$  ,  $t_r$  ,  $t_f \leq 1ns$ .
- (3) The SONY POC-10 ( POF 1m ) or its equivalent optical fiber cable should be used.
- (4) Characteristics of standard rceiver are according to another sheet.
- (5) The Tektronix TDS380P or its equivalent oscilloscope should be used.
- (6) When measuring delay time, use the probe A and B of the same type and length.

**Rise and Fall Times and Pulse Width Distortion**



*Pulse Width Distortion =  $\Delta tw = t_{PHL} - t_{PLH}$*

**Jitter**





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    - Telecommunication equipment 【 terminal 】
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    - Industrial control
    - Audio visual equipment
    - Consumer electronics
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    - Traffic signals
    - Gas leakage sensor breakers
    - Alarm equipment
    - Various safety devices, etc.
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