

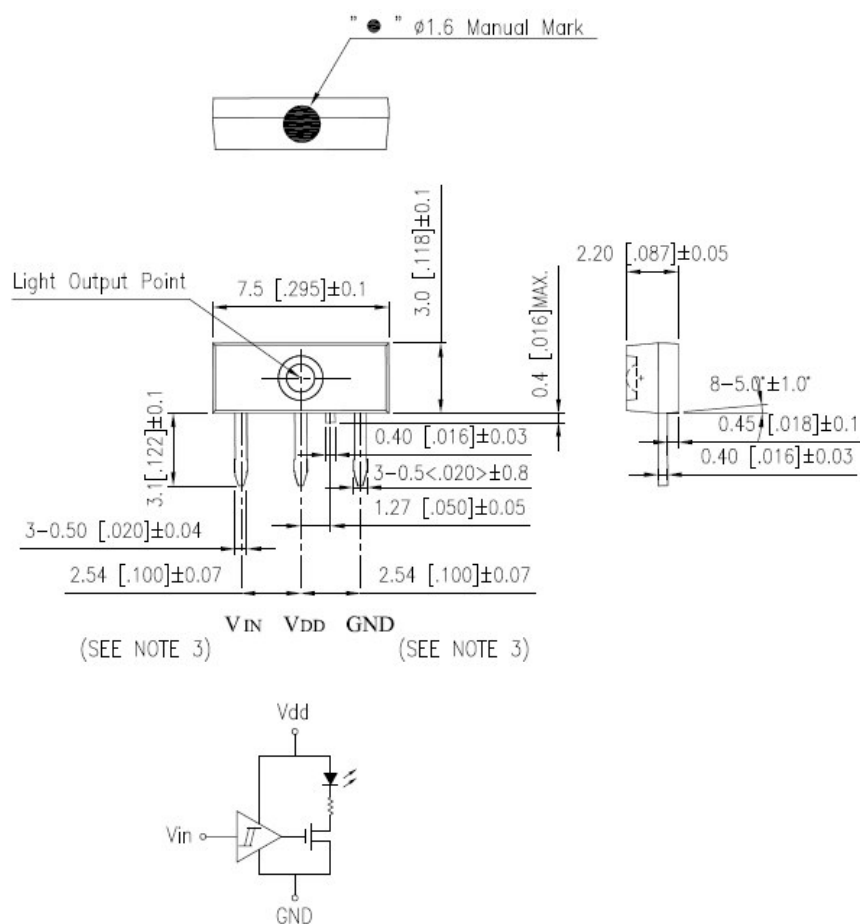
## FEATURES

- \* TTL INTERFACE COMPATIBLE
- \* HIGH SPEED OPTIC SIGNAL TRANSMISSION
- \* BUILT-IN LED DRIVER
- \* LOW POWER CONSUMPTION

| $V_{DD}$     | $V_{in}$ | LED | $V_{DD}$ | $V_{in}$ | LED |
|--------------|----------|-----|----------|----------|-----|
| 2.7V ~ 5.25V | HIGH     | ON  | FLOATING | HIGH     | OFF |
| 2.7V ~ 5.25V | LOW      | OFF | FLOATING | LOW      | OFF |
| 2.7V ~ 5.25V | FLOATING | OFF |          |          |     |

- \* WATER CLEAR COMPOUND PACKAGED.

## PACKAGE DIMENSIONS



### NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.1\text{mm}$  (.004") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Mark: Purple color.



# LITE-ON TECHNOLOGY CORPORATION

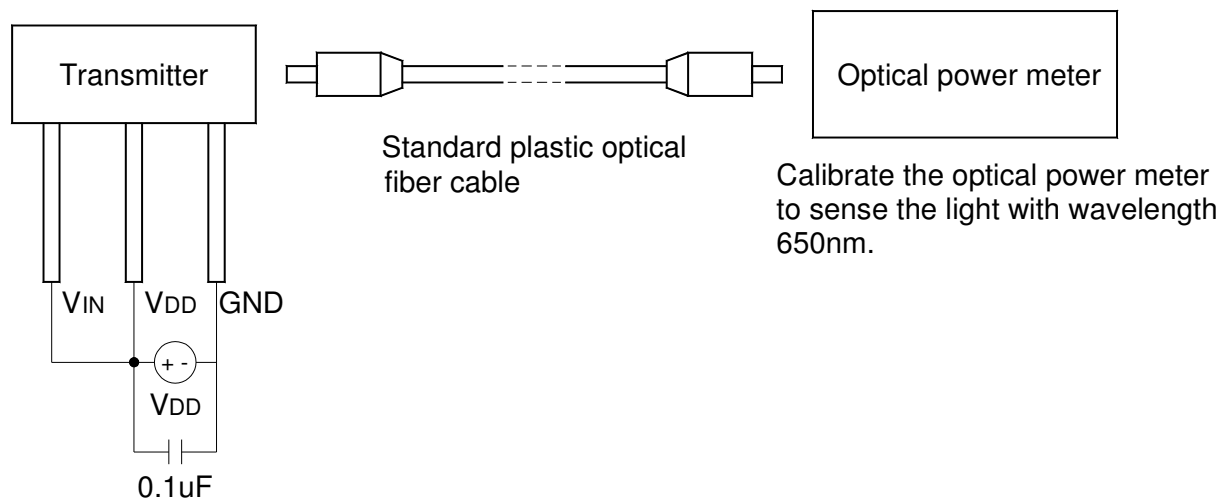
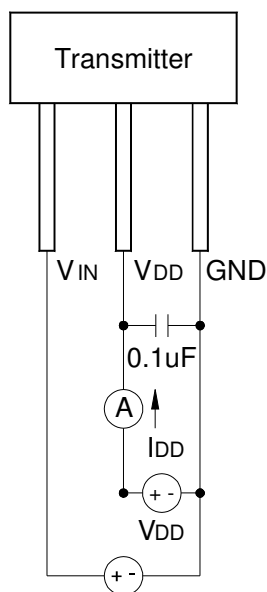
Property of Lite-On Only

## ABSOLUTE MAXIMUM RATINGS AT TA=25°C

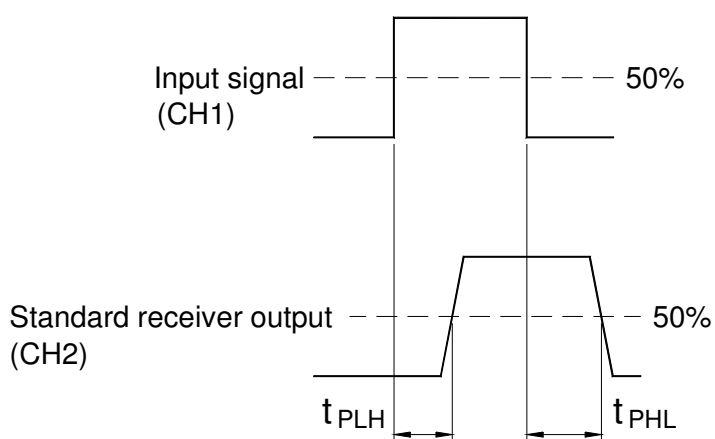
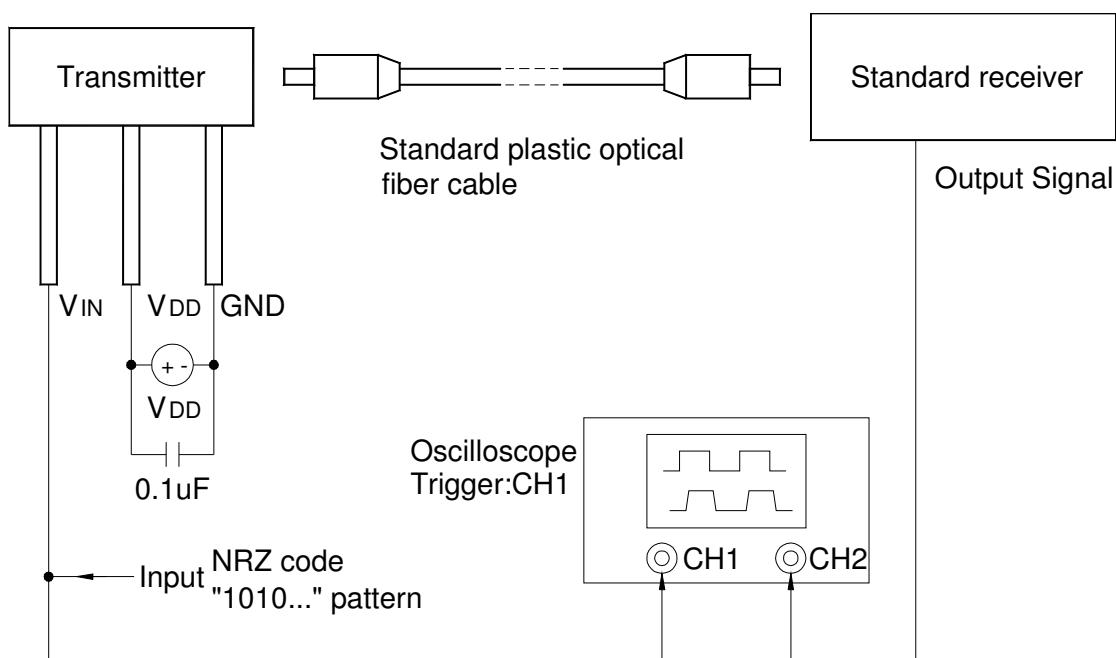
| PARAMETER                                              | MAXIMUM RATING              | UNIT |
|--------------------------------------------------------|-----------------------------|------|
| Supply Voltage (V <sub>DD</sub> )                      | -0.5 ~ +7                   | V    |
| Input Voltage (V <sub>IN</sub> )                       | -0.5 ~ V <sub>DD</sub> +0.5 | V    |
| Power Dissipation (P)                                  | 120                         | mW   |
| Human Body Model ESD (HBM)                             | 3K                          | V    |
| Machine Model ESD (MM)                                 | 300                         | V    |
| Operating Temperature Range                            | -25 °C to + 70 °C           |      |
| Storage Temperature Range                              | -40 °C to + 70 °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 |
|----------------------------------|--------------------|------|------|------|------|----------------|
| Transmission Speed               | T <sub>S</sub>     | —    | —    | 25   | Mbps | NRZ signal     |
| Operating Voltage                | V <sub>DD</sub>    | 2.75 | —    | 5.25 | V    |                |
| Peak Emission Wavelength         | λ <sub>Peak</sub>  | 630  | 650  | 690  | nm   |                |
| Fiber coupling light output      | P <sub>C</sub>     | -21  | -17  | -15  | dBm  | *1             |
| Dissipation current              | I <sub>DD</sub>    | —    | 5    | 12   | mA   | *2             |
| High level input voltage         | V <sub>IH</sub>    | 2    | —    | —    | V    |                |
| Low level input voltage          | V <sub>IL</sub>    | —    | —    | 0.8  | V    |                |
| “Low→High”propagation delay time | t <sub>PLH</sub>   | —    | —    | 100  | ns   | *3             |
| “High→Low”propagation delay time | t <sub>PHL</sub>   | —    | —    | 100  | ns   |                |
| Pulse width distortion           | Δ t <sub>W</sub>   | -15  | —    | 15   | ns   |                |
| Viewing Angle (See FIG.2)        | 2 θ <sub>1/2</sub> | —    | 90   | —    | deg. |                |
| Jitter                           | Δ t <sub>j</sub>   | —    | —    | 15   | ns   |                |

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

**\*2 Power dissipation measuring method**


### \*3 Measuring pulse response



$$\text{Pulse width distortion } \Delta tw = t_{PHL} - t_{PLH}$$

#### Note

(1) The impedance of the probe for the oscilloscope must be more than 1MΩ and less than 10pf.

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

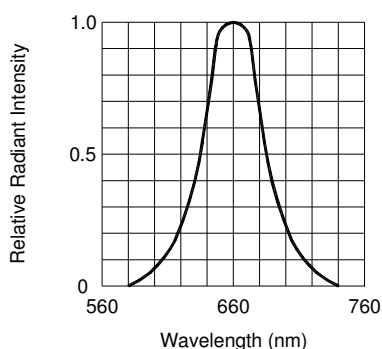


FIG.1 SPECTRAL DISTRIBUTION

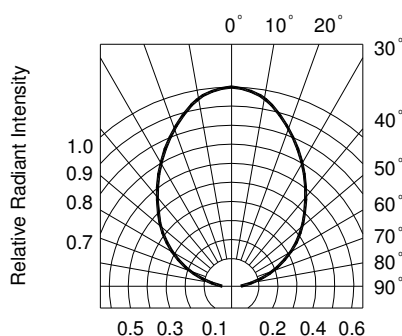


FIG.2 RADIATION DIAGRAM

### CAUTIONS

#### 1. Storage

■ For the devices which are stored out of their original packag for more than eight hours, it is better to bake them at about  $100 \pm 5^\circ\text{C}$  for at least 4 hours before assembling.

#### 2. ESD (Electrostatic Discharge)

Static Electricity or power surge will damage the devices.

Suggestions to prevent ESD damage:

- Use of a conductive wrist band or anti-electrostatic glove when handling these devices.
- All devices, equipment, and machinery must be properly grounded.
- Work tables, storage racks, etc. should be properly grounded.
- Use ion blower to neutralize the static charge which might have built up on surface of the device's plastic lens as a result of friction between LEDs during storage and handling.