

Photo-link Light Transmitter Unit PLT133/T10W



Features

- High speed signal transmission (16Mbps NRZ Signal)
- TTL interface compatible
- +3~+5V single power source
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH
- Compliance Halogen Free(Br<900ppm,Cl<900ppm,Br+Cl<1500ppm)

Description

The opto-electrical component is assembled with a 660nm AlGaInP LED and a driver IC. It transforms the electrical signal to optical signal and be transmitted by 1mm diameter plastic optical fiber.

The component is operated at +3~+5V and has good performance at low dissipation current, steady light output and efficient light coupling.

Applications

- Digital audio equipment
- CD player
- DVD player

Device Selection Guide

| Chip | | Operating Voltage (Vcc) | Dissipation Current (mA) | | Fiber Coupling Light Output (dBm) | | |
|----------|--------|-------------------------|--------------------------|------|-----------------------------------|------|------|
| Material | λp(nm) | | Typ. | Max. | Min. | Typ. | Max. |
| | | | | | | | |

| | | | | | | | |
|---------|-----|----------|-----|----|-----|-----|-----|
| AlGaInP | 660 | +3.0~5.0 | 5.5 | 10 | -21 | --- | -15 |
|---------|-----|----------|-----|----|-----|-----|-----|

Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|-----------------------|--------|-----------------|------|
| Supply Voltage | Vcc | -0.5 to 7 | V |
| DC Input Voltage | Vin | -0.5 to Vcc+0.5 | V |
| Storage Temperature | Tstg | -40 to 85 | °C |
| Operating Temperature | Topr | -40 to 85 | °C |
| Soldering Temperature | Tsol | 260* | °C |
| Human Body Model ESD | HBM | 3K | V |
| Machine Model ESD | MM | 300 | V |

Notes: Soldering time \leq 10 seconds.

Recommended Operating Conditions

| Parameter | Symbol | Conditions | MIN. | TYP. | MAX. | Unit |
|----------------|--------|------------|------|------|------|------|
| Supply Voltage | Vcc | - | 2.7 | 3.0 | 5.50 | V |

Electro-Optical Characteristics (Ta=25°C, Vcc=5.0V, 16Mbps)

| Parameter | Symbol | Conditions | MIN. | TYP. | MAX. | Unit |
|-----------------------------|-------------|-----------------------------------|------|------|------|------|
| Peak Emission Wavelength | λ_p | | 640 | 660 | 680 | nm |
| Transmission Rate | | NRZ Signal | DC | - | 16 | Mbps |
| Fiber Coupling Output Power | Pf | * Measuring Method 1 | -21 | - | -15 | dBm |
| Dissipation Current | Icc | * Measuring Method 1 | 3 | - | 10 | mA |
| High Level Input Voltage | Vih | | 2 | - | - | V |
| Low Level Input Voltage | Vil | | - | - | 0.8 | V |
| Rise Time | Tr | [1] ; *2 NRZ Code VFLED = 2.0V | - | 15 | 20 | ns |
| Fall Time | Tf | | - | 15 | 20 | ns |
| Low to High Delay Time | tpLH | * Measuring Method 2 | - | - | 100 | ns |
| High to Low Delay Time | tpHL | * Measuring Method 2 | - | - | 100 | ns |
| Pulse Width Distortion | Δtw | * Measuring Method 2 | -15 | - | 15 | ns |
| Jitter | Δtj | * Measuring Method 2 | - | 1.5 | 15 | ns |

*Note 1 : All Plastic Optical Fiber (980/1000um)

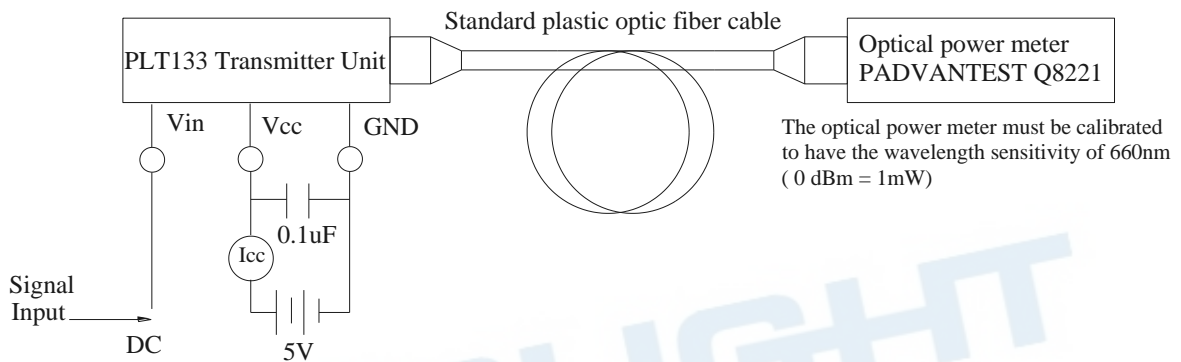
*Circuit Layout Notice:

When power is off, it must be cut off together in Vin and Vcc pin.
If it only has Vcc power-off, LED will sure to be no output power.

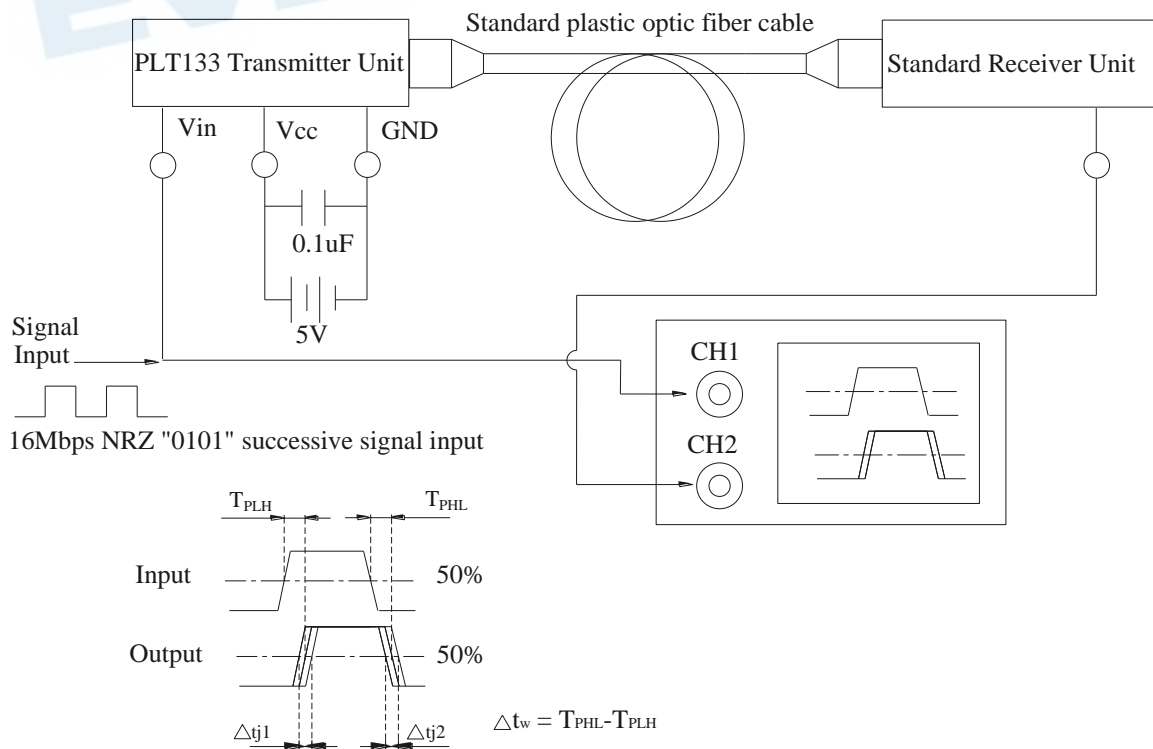
| Vcc | Vin | LED Condition |
|----------|----------|---------------|
| 2.7~5.5V | High | ON |
| 2.7~5.5V | Low | OFF |
| 2.7~5.5V | FLOATING | ON |
| FLOATING | 0~Vcc | ON |

Measuring Method

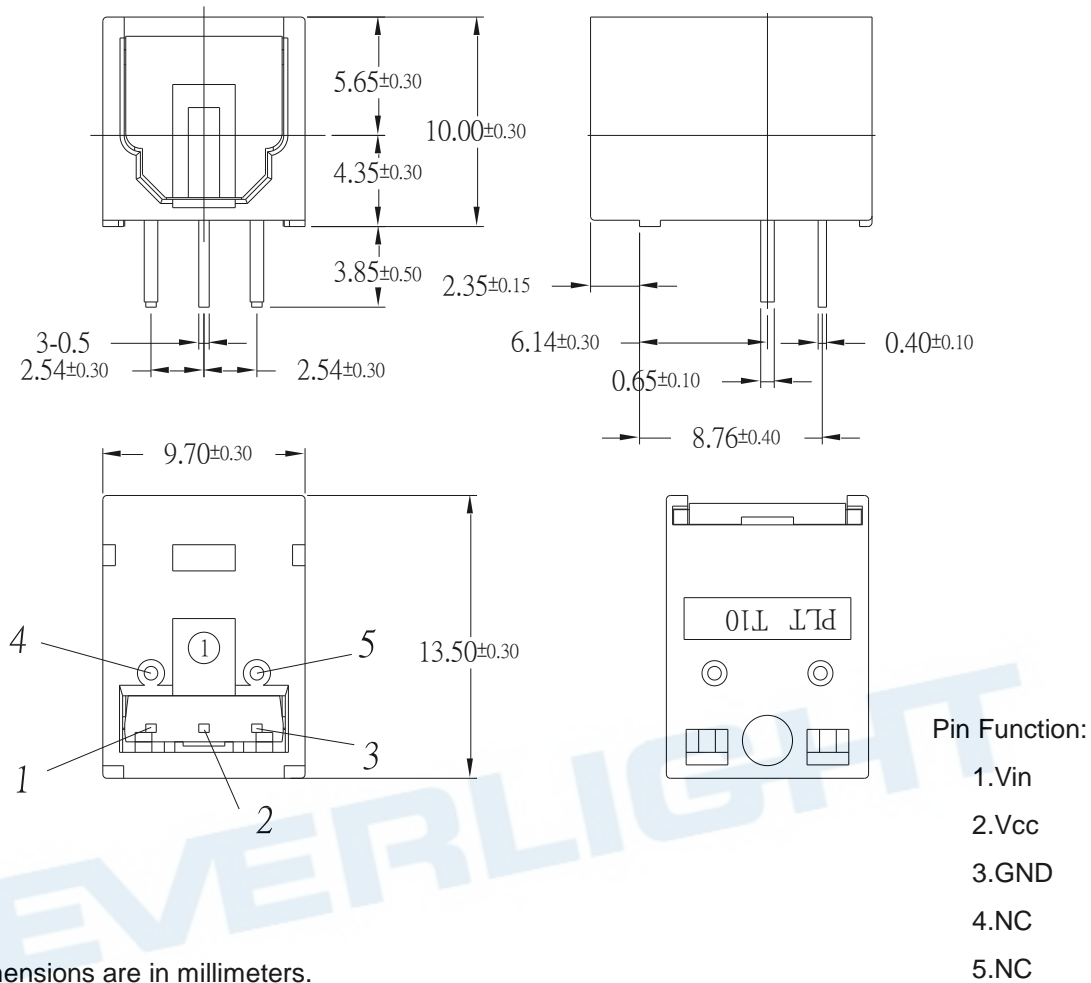
*1 Measuring method of optical output coupling fiber and dissipation current



*2 Pulse response measuring method



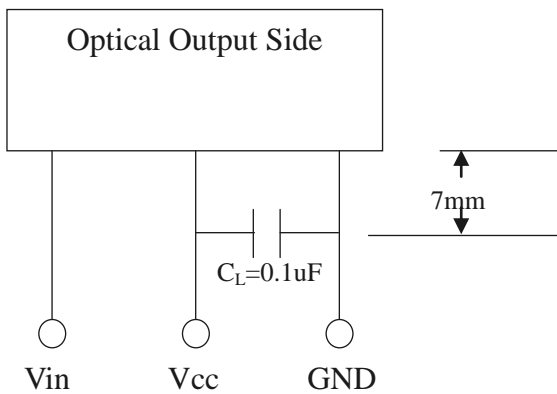
Package Dimension



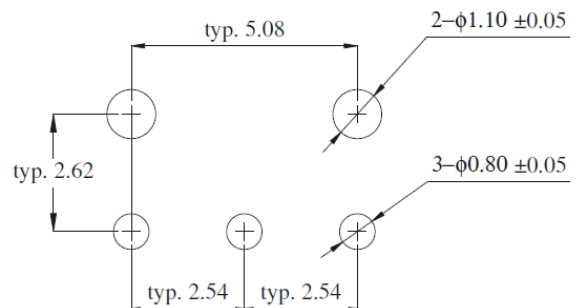
Notes:

- 1.All dimensions are in millimeters.
- 2.General Tolerance :±0.3mm

Using Method



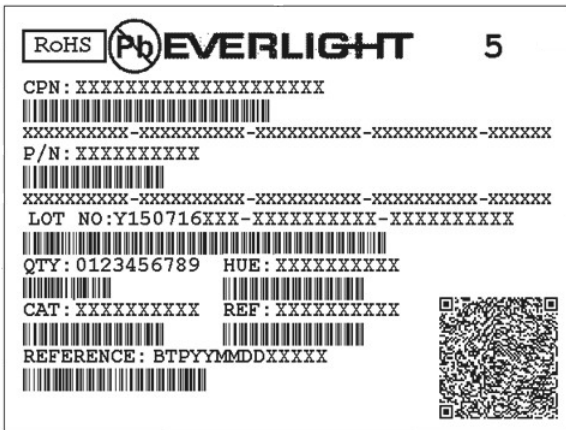
PCB Layout for Electrical Circuit



Notes:

- 1.unit:mm
- 2.Dimension Tolerance:±0.25mm
- 3.Substrate Thickness:1.6mm

Label Explanation



- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number
- X: Month
- Reference: Identify Label Number

Packing Quantity Specification

1. 60 pcs/tube
2. 36 tube/Inner box
3. 4 Inner box/Outside box

Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification and reserve the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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