



## ZGY133/T10(PLT)

### Photo-link Light Transmitter Unit

#### Descriptions

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.

#### 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.

#### Applications

- Digital audio equipment
- CD player
- DVD player

#### Device Selection Guide

Chip		Operating Voltage (Vcc)	Dissipation Current (mA)		Fiber Coupling Light Output (dBm)		
Material	$\lambda_p$ (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	$\lambda_p$		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	$\Delta tw$	* Measuring Method 2	-15	-	15	ns
Jitter	$\Delta tj$	* 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.

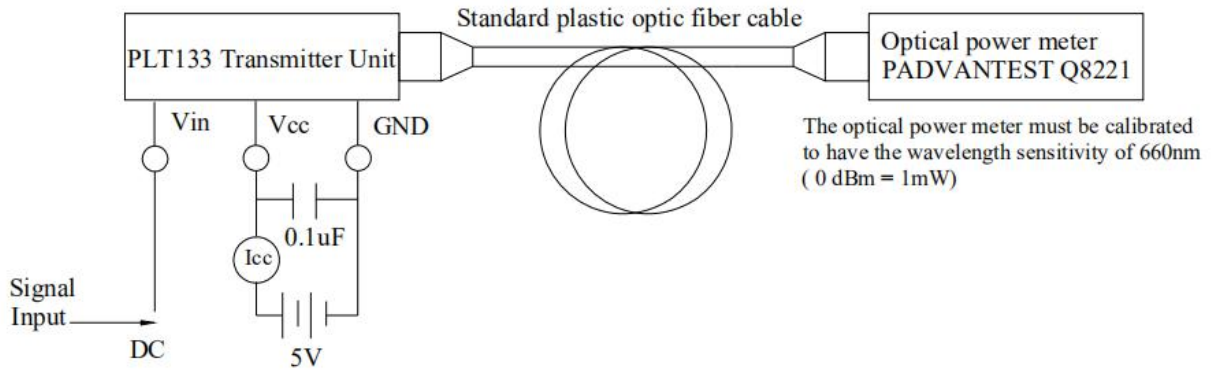
If it only has Vcc power-off, LED will sure to be no output power.

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

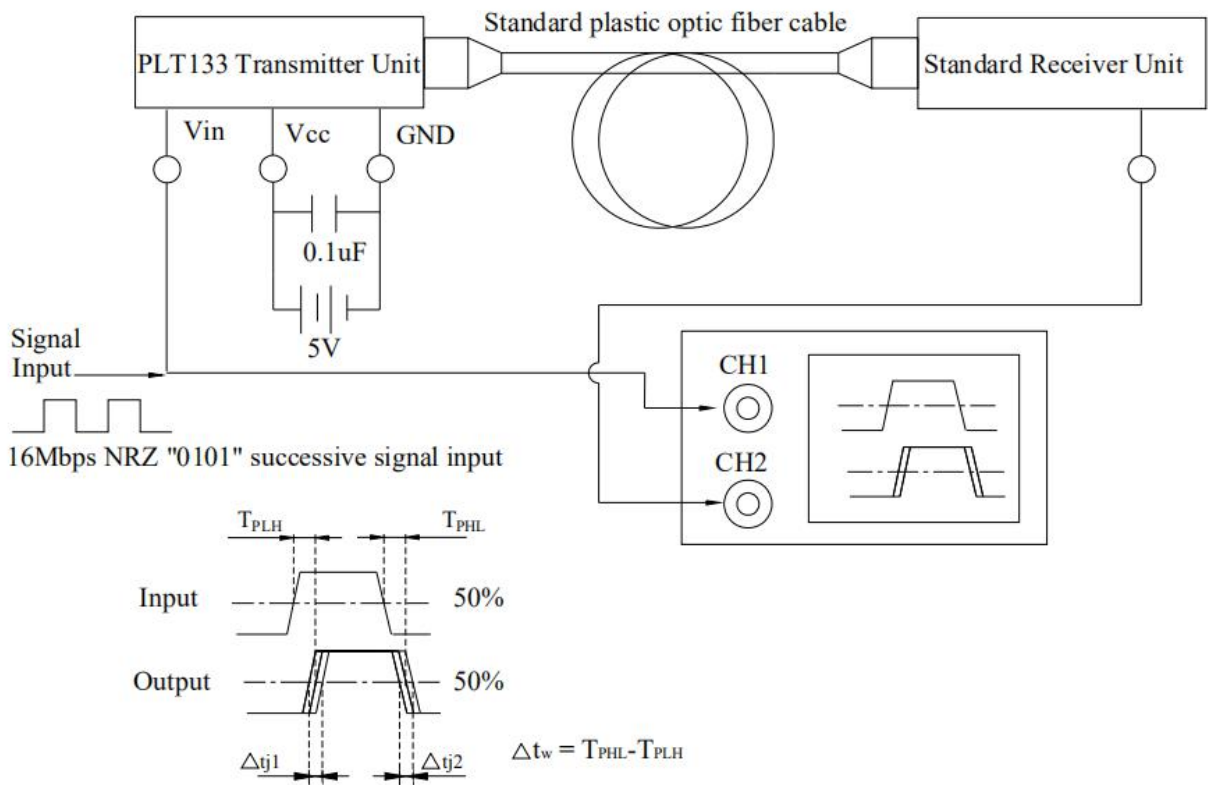


## Measuring Method

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

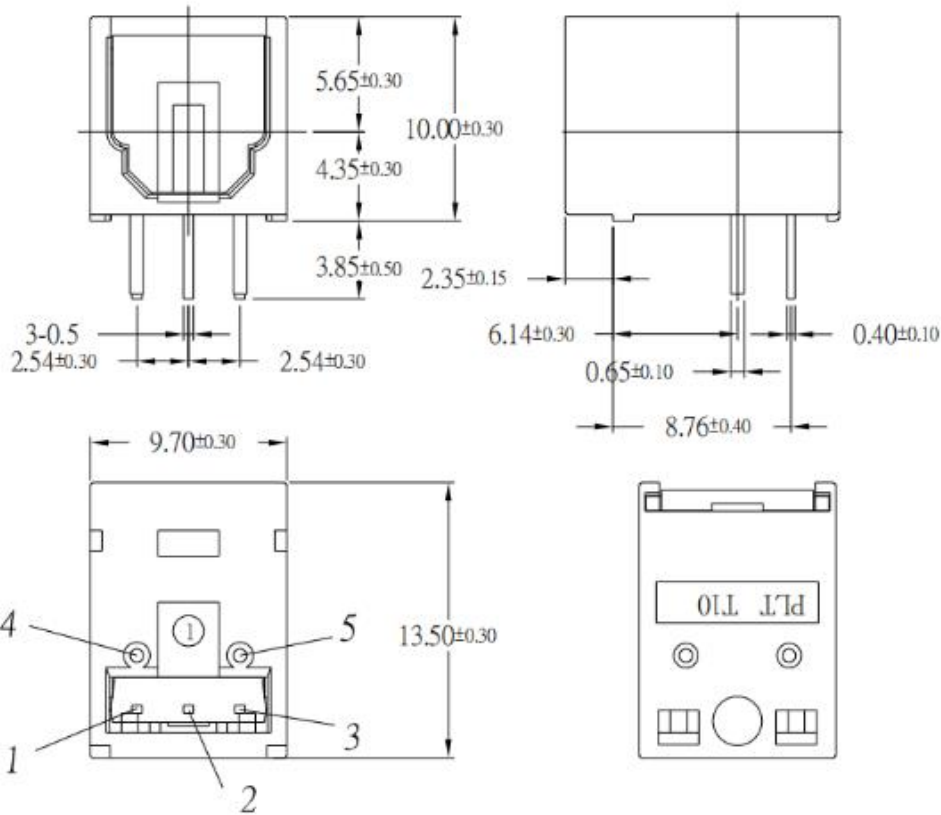


\*2 Pulse response measuring method





## Package Dimension

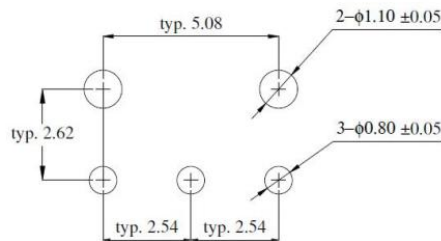
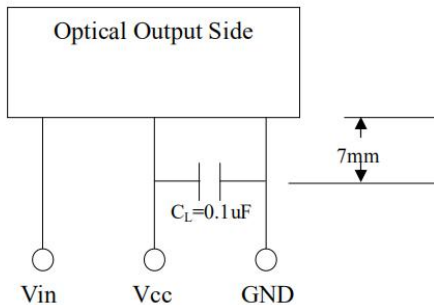


Pin Function: 1.Vin 2.Vcc 3.GND 4.NC 5.NC

### Notes:

- 1.All dimensions are in millimeters.
- 2.General Tolerance : $\pm 0.3$ mm

## Using Method PCB Layout for Electrical Circuit



### Notes:

1. unit:mm
2. Dimension Tolerance: $\pm 0.25$ mm
3. Substrate Thickness:1.6mm