

GP1FP513TK0F

Fiber Optic Transmitter
Electric jack/Optical connector
integrated type
With mounting hole
With shutter



■Description

GP1FP513TK0F has a built-in LED with a peak light emission wavelength of 660 nm and the associated drive IC, and the input is TTL level compatible.

■Features

1. TTL level input compatible

■Agency approvals/Compliance

1. Compliant with CE marking (EN 60950 and EN 60825)
2. Compliant with RoHS directive (2002/95/EC)

■Applications

AV equipment
(DVD, CD, MD players etc.)

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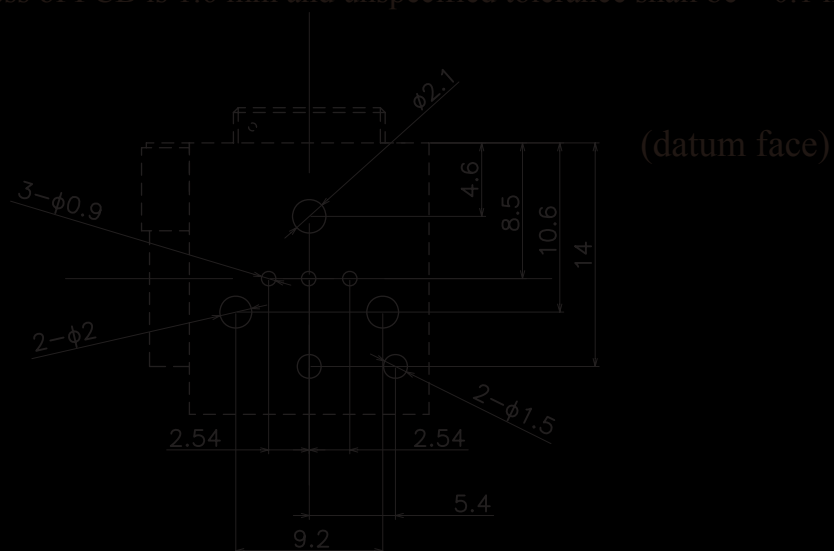
Sheet No.: E2-A00802EN

Date Dec.01.2006

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(Unit: mm)

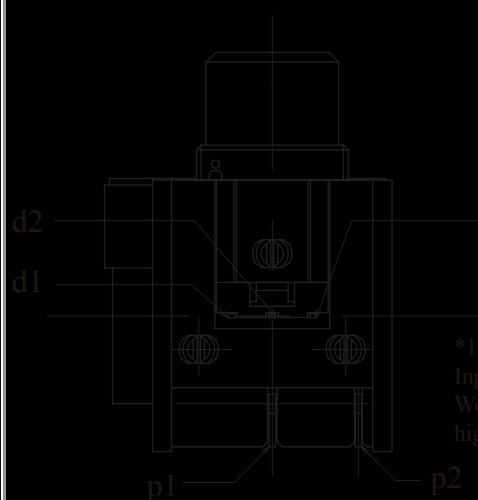
Example of mounting drawing from solder side

Thickness of PCB is 1.6 mm and unspecified tolerance shall be ± 0.1 mm.

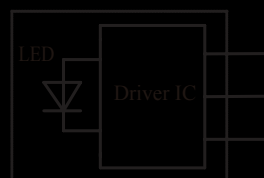
Pin layout

Internal equivalent circuit

Pin arrangement



Transmitter

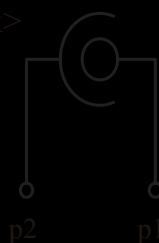


LED : GaAlAs, Driver IC : Silicon

*1

Input conditions of V_{in} terminal are designed to conform to TTL and CMOS.
We recommend that the input for V_{in} terminal uses the output of TTL and high speed CMOS.

<Pin jack>



■ Measurement Method

Fig. 1 Output Optical Power Coupled Into Fiber

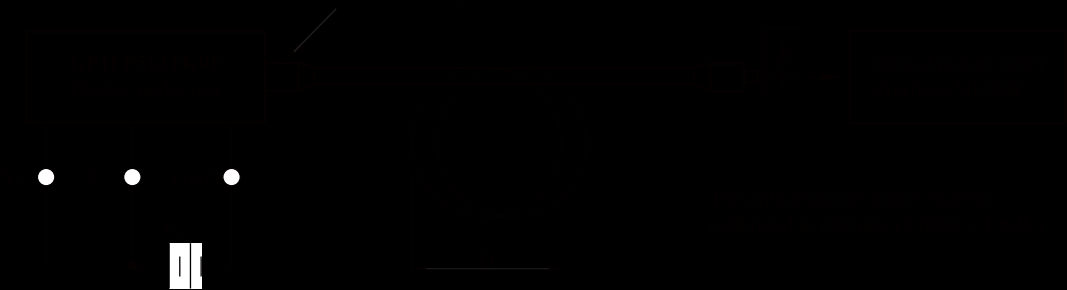
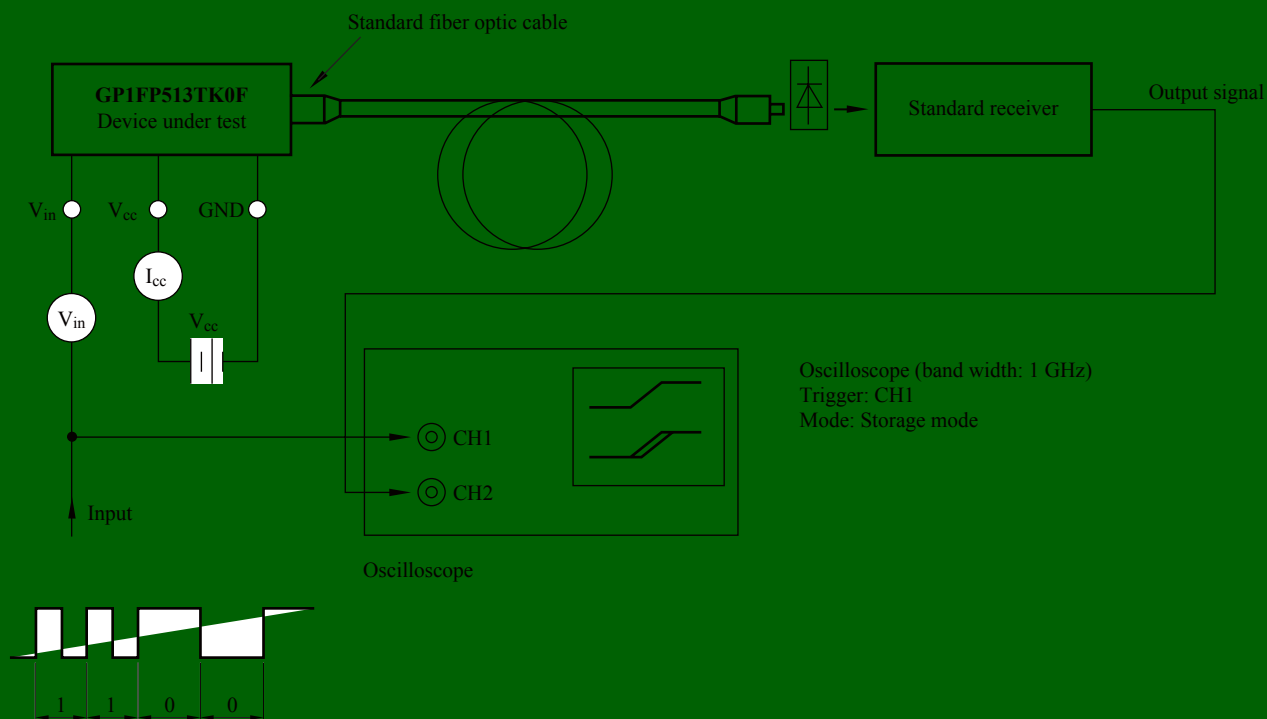


Fig. 2 Input Voltage and Supply Current

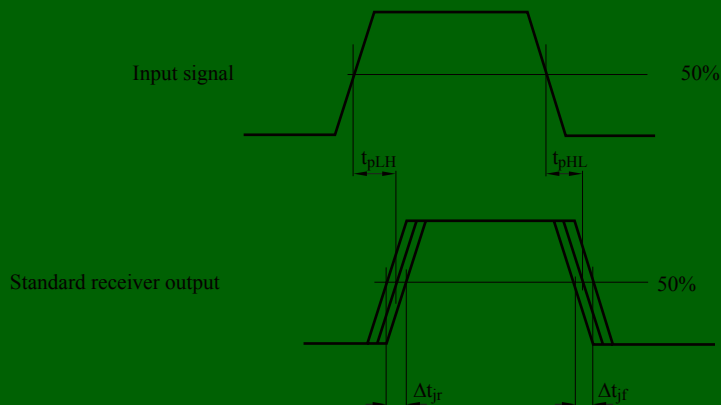


Fig. 3 Pulse Response and Jitter



Input signal
6.6 Mb/s bi-phase PRBS signal

Fig. 4 Input Signal (6.6 Mb/s Bi-phase PRBS Signal)



Notes

- (1) The wave form write time shall be 4 s. But do not allow the wave form to be distorted by increasing the brightness too much.
- (2) $V_{CC} = 5.0$ V (State of operating)
- (3) The probe for the oscilloscope must be more than 1 M Ω and less than 10 pF.

■Design and Production Notes

(1) Stabilization of power supply line

Please put a by-pass capacitor (0.1 μ F) close to the device at least within 7 mm of the terminal.
Please also put a 4.7 μ F capacitor across the power supply line nearby.

(2) Soldering condition

Solder at the condition within the absolute maximum ratings in this sheet. In case of using flow soldering, please make sure of the conditions of process at the flow equipment. Also, do not use reflow soldering. In case of soldering by hand, do not contact top of soldering iron to lead terminal directly. (Solder at a position more than 1.6 mm away from the base of the lead terminal.)

(3) About getting dirt and dust in the connector coupling portion

In case dirt or dust comes into the connector coupling portion, please use a blower to take it off.
Any rigid rod-like object must not be inserted since into the coupling portion.
The internal device might be damaged, resulting deteriorated characteristics.

(4) Cleaning

Do not immerse for cleaning. The solvent would get into the connector coupling portion resulting deteriorated characteristics. Should it be necessary to remove the flux, please use one of the following solvents only to be applied with a brush.

Solvent : Isopropyl alcohol, Methyl alcohol

(5) Ground during assembling

The human body and the soldering iron must be grounded against the static breakdown of the device during assembling.
Please avoid touching the device terminals as much as possible before assembling.

(6) Assembly of the device

Please fix this device with a screw. In case that this device is not fixed with a screw, stress by detaching connector of internal elements and leads can adversely affect the device's reliability. Excessive torque can deform the package and damage the optics. It can also adversely affect the device's reliability because the device is used under continuous stress. Please confirm the limit of fixing torque to the installation before fixing actually.

Recommended values

Screw : M2.0 \times 8 mm tapping screw

Fixing torque : 0.7 to 0.8 N·m

Force applied by driver etc. : 39 N or less

Note : Please contact and consult with a Sharp sales representative for any questions about above.

(7) Input signal

This product is designed intentionally based upon the signal transmission which is defined by the digital audio interface standard ; CP1201. When a signal out of JEITA standard CP-1201 is inputted to this device, there might be a case that this device can not transmit a signal correctly to receiving unit.

(8) Fixing pin

Since there are other products which has a different fixing pin shape, please make sure to confirm reference mounting drawing for this device.

(9) Damage to connector coupling portion

Please do not stress the connector coupling portion excessively since there might be a case that the shutter can't operate normally.

(10) About getting the flux into connector coupling portion

Please avoid getting a flux into connector coupling portion of this device, because there might be a case that the characteristics deteriorate the shutter can't operate normally.

● **Presence of ODC etc.**

This product shall not contain the following materials.

And they are not used in the production process for this product.

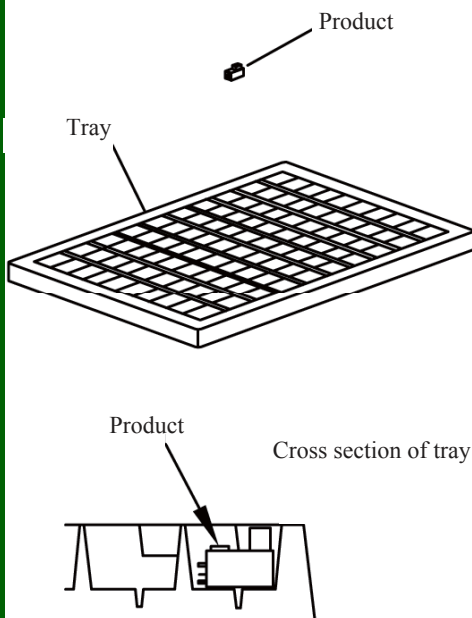
Regulation substances : CFCs, Halon, Carbon tetrachloride, 1,1,1-Trichloroethane (Methylchloroform)

Specific brominated flame retardants such as the PBB and PBDE are not used in this product at all.

This product shall not contain the following materials banned in the RoHS Directive (2002/95/EC).

- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE).

■ **Packing Specifications**



PACKING MATERIAL

Tray : Polystyrene

PACKING METHOD

Each tray holds 100 pieces.

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- Office automation equipment
- Telecommunication equipment [terminal]
- Test and measurement equipment
- Industrial control
- Audio visual equipment
- Consumer electronics

(ii) Measures such as fail-safe function and redundant design should be taken to ensure reliability and safety when SHARP devices are used for or in connection

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- Traffic signals
- Gas leakage sensor breakers
- Alarm equipment
- Various safety devices, etc.

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