

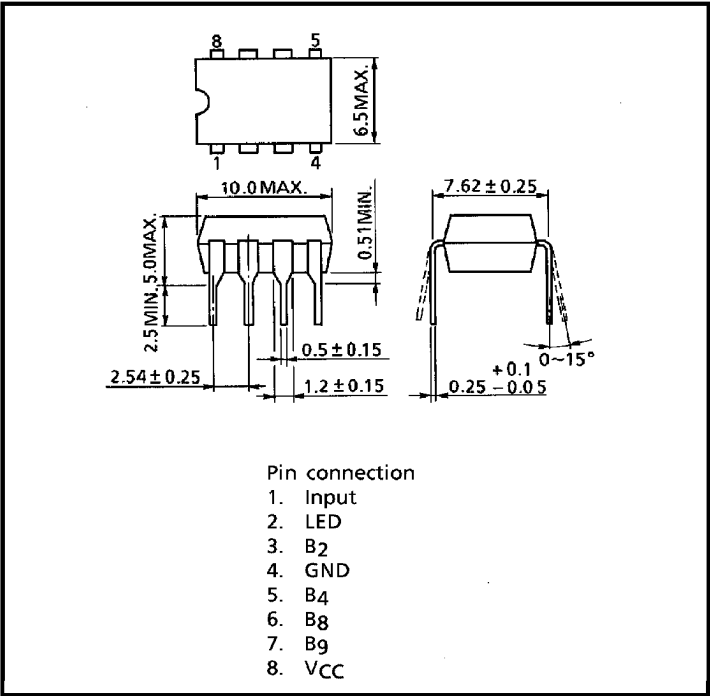
FIBER OPTIC TRANSMITTING PERIPHERAL IC

TOIC8513P

LED DRIVE CIRCUIT FOR OPTICAL TRANSMISSION

Unit : mm

- TTL interface
- Data rate : Up to 20Mb/s (NRZ code)



1. Maximum Ratings (Ta = 25°C)

| ITEM                   | SYMBOL           | RATINGS                              | UNIT |
|------------------------|------------------|--------------------------------------|------|
| Storage Temperature    | T <sub>stg</sub> | -55~150                              | °C   |
| Operating Temperature  | T <sub>opr</sub> | -40~85                               | °C   |
| Power Supply           | V <sub>CC</sub>  | -0.5~7                               | V    |
| Input Voltage          | V <sub>IN</sub>  | -0.5~V <sub>CC</sub>                 | V    |
| LED Terminal Voltage   | V <sub>LED</sub> | V <sub>CC</sub> -2.5~V <sub>CC</sub> | V    |
| Package Allowable Loss |                  | 0.9                                  | W    |
| Soldering Temperature  | T <sub>sol</sub> | 260 <sup>(1)</sup>                   | °C   |

NOTE : <sup>(1)</sup> Soldering time ≤ 10s (More than 1mm apart from package).

2. Recommended Operating Conditions

| ITEM         | SYMBOL          | MIN. | TYP. | MAX. | UNIT |
|--------------|-----------------|------|------|------|------|
| Power Supply | V <sub>CC</sub> | 4.75 | 5.00 | 5.25 | V    |
| Data Rate    |                 | DC   | —    | 20   | Mb/s |

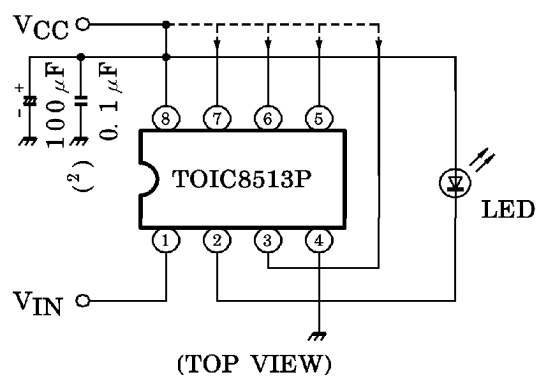
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6. Connecting Method

Example of a recommended circuit ( $V_{LED} \leq 2.5V$ )



See item next figure for connection method of pins No.3, 5, 6 and 7.

| Pin No. | LED OUTPUT CURRENT<br>( $V_{CC}=5V$ , Turn ON, Typ.) |
|---------|--|
| 3       | 32mA   |
| 5       | 50mA   |
| 6       | 20mA   |
| 7       | 7mA  |

- (2) Install  $0.1\mu F$  capacitor within 5mm from No.8 pin and  $100\mu F$  capacitor within 15mm from No.8 pin.

7. IC Logic

| INPUT LEVEL | OPTICAL OUTPUT<br>(LED OUTPUT CURRENT) |
|-------------|--|
| Hi          | ON                                     |
| Lo          | OFF                                    |

8. Precautions for Operation

- (1) The maximum ratings show the limits, which must not be exceeded even momentarily regardless of the external condition.  
Operation beyond the limit of the maximum rating may cause failure of the devices.  
Therefore, special attention should be given to the maximum ratings.
- (2) Do not use acid or alkaline soldering flux cleaner solvent.
- (3) Ground all GND pins.