

GP1A44E1

Transmissive Type Photointerrupter with Actuator

■ Features

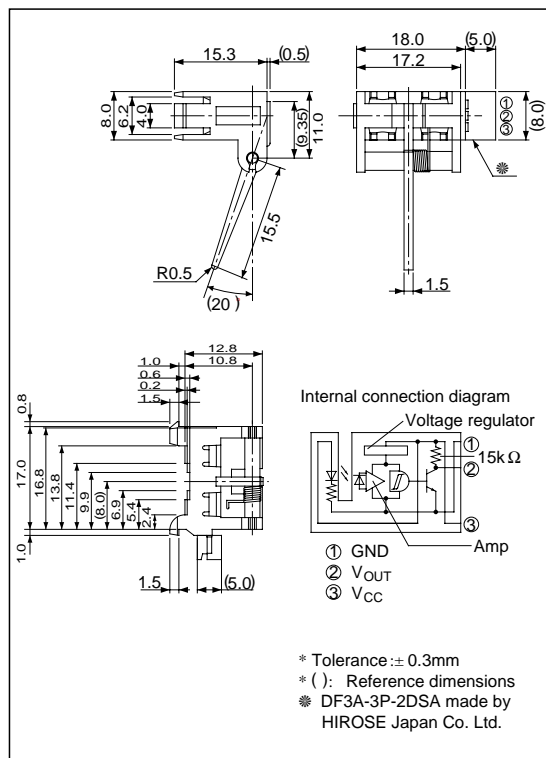
1. With compact actuator
2. Easy wiring due to built-in connector
3. Snap-in mounting type in order to mount to an equipment easily
4. OPIC output type for direct connection to microcomputer

■ Applications

1. Copiers
2. Laser beam printers
3. Facsimiles

■ Outline Dimensions

(Unit : mm)



*** OPIC™ (Optical IC) is a trademark of the SHARP Corporation.
 An OPIC consists of a light-detecting element and signal-processing circuit integrated onto a single chip.

■ Absolute Maximum Ratings

(Ta = 25°C)

| Parameter | Symbol | Rating | Unit |
|--------------------------|------------------|---------------|------|
| Supply voltage | V _{CC} | - 0.5 to + 10 | V |
| *1 Output current | I _{OL} | 50 | mA |
| *2 Operating temperature | T _{opr} | - 20 to + 75 | °C |
| *2 Storage temperature | T _{stg} | - 40 to + 85 | °C |

*1 Collector current of output transistor

*2 The connector should be plugged in/out at normal temperature.

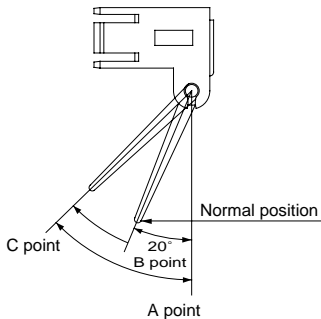
■ Electro-optical Characteristics

(Unless otherwise specified, V_{CC}= 5V, Ta= 25°C)

| Parameter | Symbol | Conditions | MIN. | TYP. | MAX. | Unit |
|--------------------------------|------------------|--|-----------------------|------|------|------|
| Low level dissipation current | I _{CCL} | Light beam interrupted | - | - | 20 | mA |
| Low level output voltage | V _{OL} | Light beam interrupted I _{OL} = 16mA | - | - | 0.4 | V |
| High level dissipation current | I _{CCH} | Light beam uninterrupted | - | - | 20 | mA |
| High level output voltage | V _{OH} | Light beam uninterrupted | V _{CC} x 0.9 | - | - | V |
| Operating supply voltage | V _{CC} | Ta =- 20 to + 75°C | 4.5 | - | 5.5 | V |

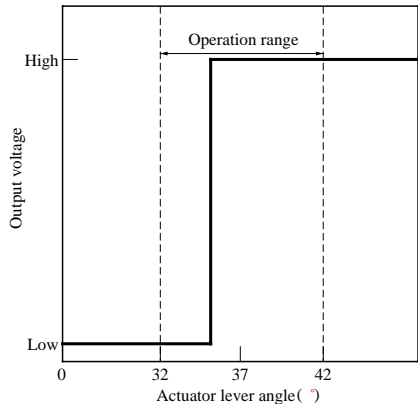
* Condition of light beam interrupted : Lever is normal condition on the Fig.1.
Condition of light beam uninterrupted : Lever is 30° or more movement condition from A point to B point on Fig.1.

Fig. 1 Detecting Position



Output voltage between A point and C point shall be from low level to high level when the actuator level rotated ($37^{\circ} \pm 5^{\circ}$) from normal condition B point to C point in Fig.1. Normal condition B point shall be opaque condition.

Fig. 2 Output Voltage vs. Actuator Lever Angle



- Mechanical Characteristics
- Lever starting torque: $1 \times 10^{-4} \text{ N} \cdot \text{m}$ or loss
- Lever Life
- 100 000 times or more
- (Lever reciprocating operation between normal condition B point and C point at the condition of no load.)

Fig. 3 Low Level Output Current vs. Ambient Temperature

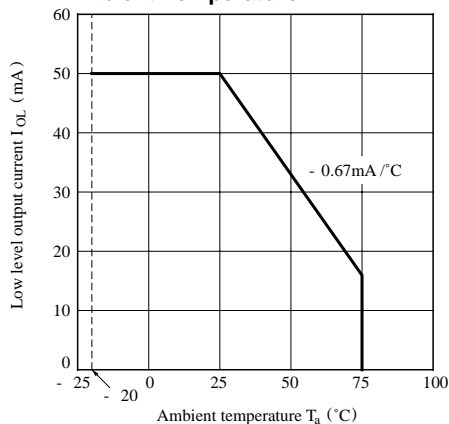


Fig. 4 Low Level Output Voltage vs. Low Level Output Current

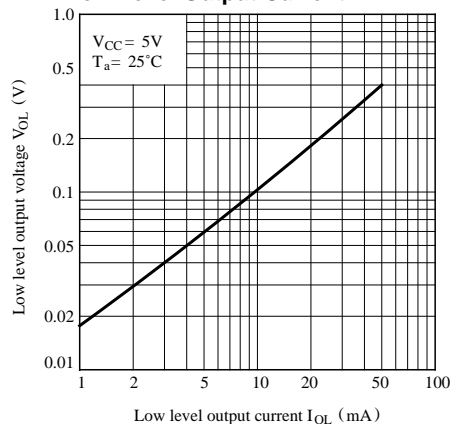


Fig. 5 Low Level Output Voltage vs. Ambient Temperature

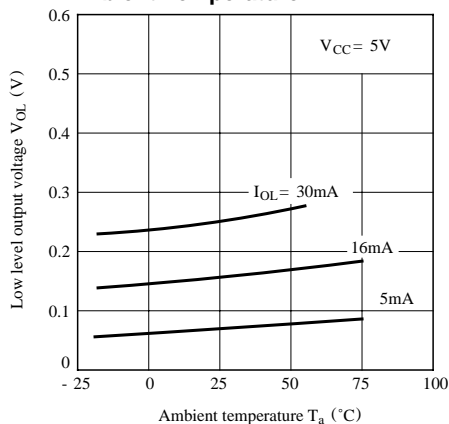
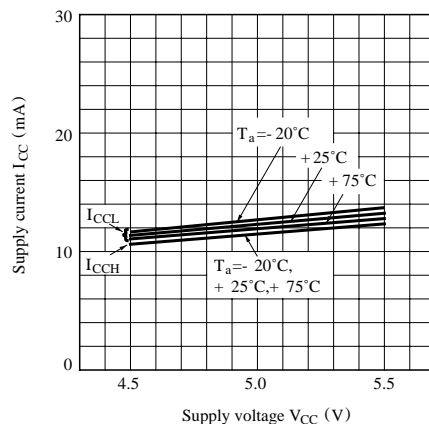


Fig. 6 Supply Current vs. Supply Voltage



- Please refer to the chapter “Precautions for Use” (Page 78 to 93).

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 - Various safety devices, etc.
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