

GP1S44S1

Transmissive Type Photointerrupter with Actuator

■ Features

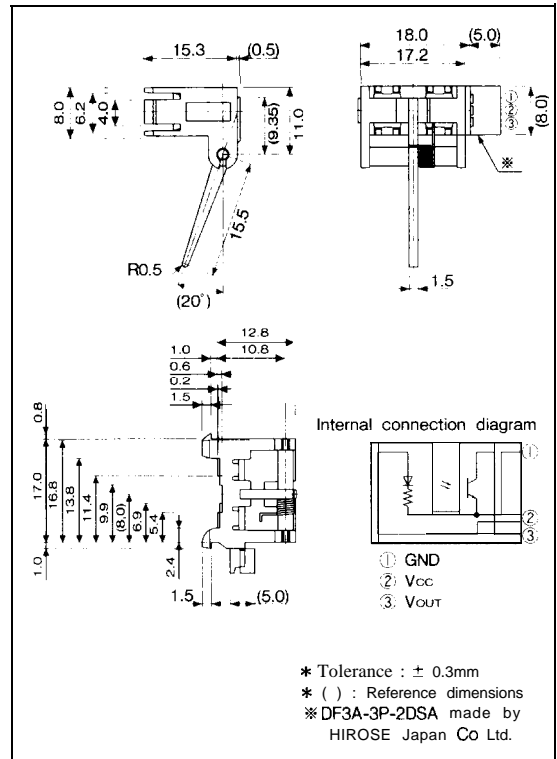
1. High sensing accuracy (Slit width : 0.5mm)
2. Easy wiring due to built-in connector
3. Snap-in mounting type in order to mount to an equipment easily

■ A ~ -

1. Copiers
2. Laser beam printers
3. Facsimiles

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Rating | Unit |
|-----------------------------|-----------|-------------|------------------|
| Supply voltage | V_{CC} | -0.5 to +10 | V |
| *1 Output voltage | V_O | 35 | V |
| *2 Output current | I_C | 20 | mA |
| *3 Output power dissipation | P_O | 75 | mW |
| *4 Operating temperature | T_{opr} | -20 to +75 | $^\circ\text{C}$ |
| *4 Storage temperature | T_{stg} | -40 to +85 | $^\circ\text{C}$ |

*1 Collector emitter voltage of phototransistor

*2 Collector current of phototransistor

*3 Collector dissipation of phototransistor

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

Electro-optical Characteristics

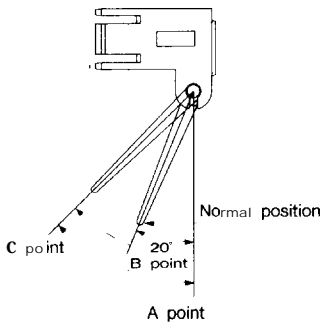
(Unless otherwise specified, $V_{CC}=5V$, $T_a = 25^\circ C$)

| Parameter | Symbol | Conditions | MIN. | TYP. | MAX. | Unit |
|--------------------------|-----------|--|------|------|------|------|
| Dissipation current | I_{CC1} | Light beam interrupted | | - | 20 | mA |
| Dissipation current | I_{CC2} | Light beam uninterrupted | | | 20 | mA |
| Collector current | I_{C1} | Light beam interrupted, $V_o = 5V$, without external disturbing light illuminance | | | 0.05 | mA |
| | I_{C2} | Light beam uninterrupted, $V_o = 5V$ without external disturbing light illuminance | 0.25 | - | - | mA |
| operating supply voltage | V_{CC} | $T_a = -20$ to $+75^\circ C$ | 4.5 | 5.0 | 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

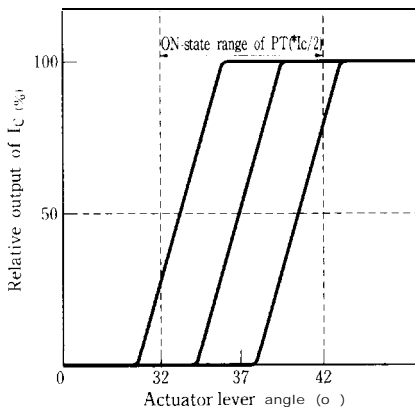


Phototransistor between A point and C point shall be ON-state when the actuator lever rotated ($37^\circ \pm 5^\circ$) from normal condition A point to C point in Fig.1. At this time, I_C of phototransistor shall be ($*I_C/2$).

* I_C is an actual measurement value on collector current in electro-optical characteristics.

Normal condition B point shall be opaque condition.

Fig. 2 Relative Output of I_C vs. Actuator Lever Angle



Mechanical Characteristics

Lever starting torque : $1gf \cdot cm$ or less

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 Power Dissipation vs. Ambient Temperature

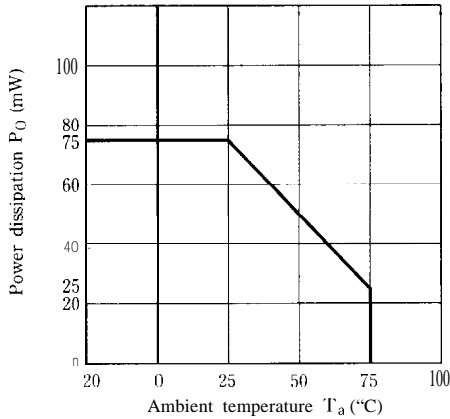


Fig. 4 Collector Current vs. Output Voltage

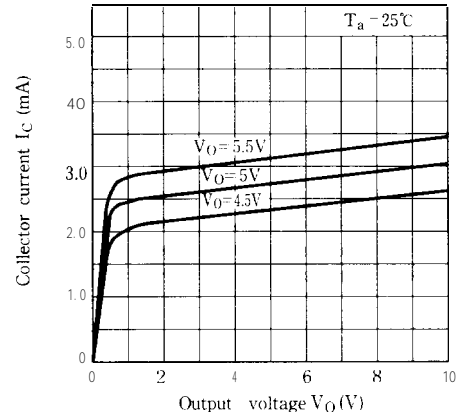


Fig. 5 Collector Current 2 vs. Ambient Temperature (Light Beam Uninterrupted)

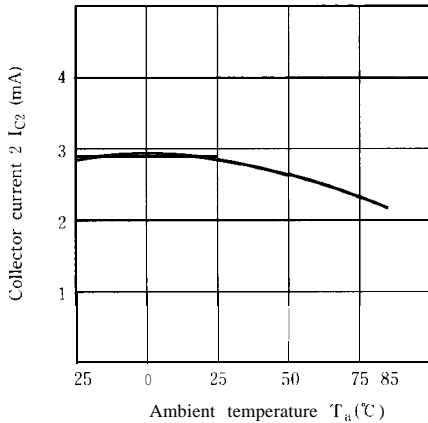


Fig. 6 Output Saturation Voltage vs. Ambient Temperature

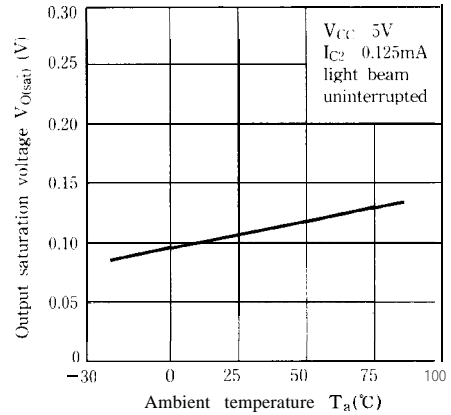


Fig. 7 Collector Current 1 vs. Ambient Temperature (Light Beam Interrupted)

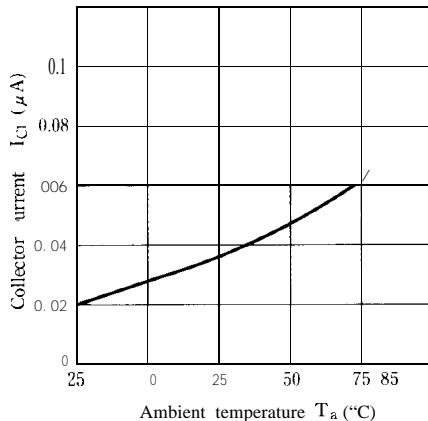
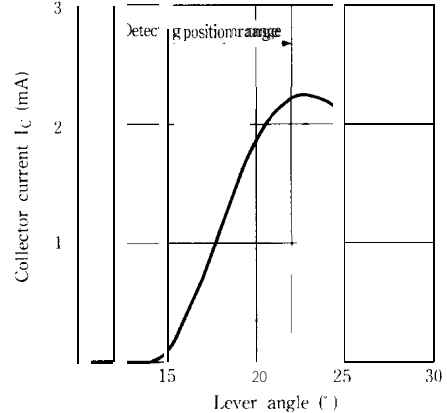


Fig. 8 Lever Angle vs. Collector Current



● Please refer to the chapter "Precautions for Use" (Page 78 to 93)