

GP1S44S1

Transmissive Type Photointerrupter with Actuator

■ Features

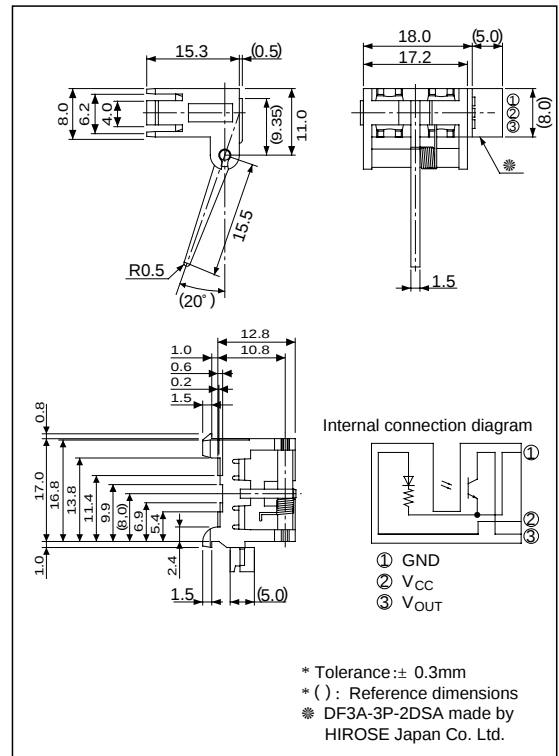
1. High sensing accuracy (Slit width : 0.5mm)
2. Easy wiring due to built-in connector
3. Snap-in mounting type in order to mount to an equipment easily

■ Applications

1. Copiers
2. Laser beam printers
3. Facsimiles

■ Outline Dimensions

(Unit : mm)



■ Absolute Maximum Ratings (Ta= 25°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	°C
*4 Storage temperature	T _{stg}	- 40 to + 85	°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.

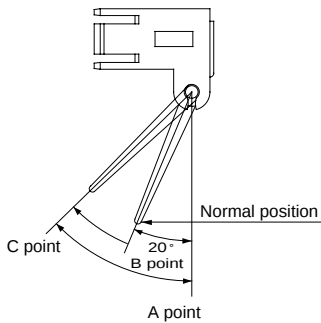
■ Electro-optical Characteristics

(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

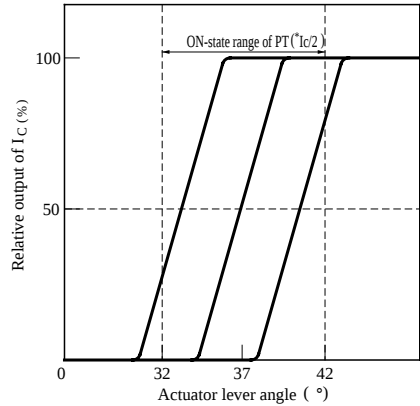
*Condition of light beam interrupted : Lever is normal condition on the Fig.1
Condition of light beam uninterrupted : Lever is 30° or more movement condition from A point to B point on Fig.1

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 : $1 \times 10^{-4} \text{ N} \cdot \text{m}$ 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

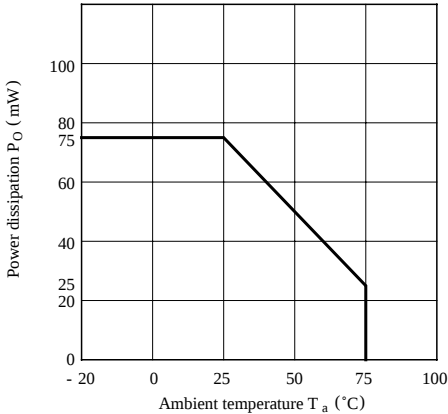


Fig. 4 Collector Current vs. Output Voltage

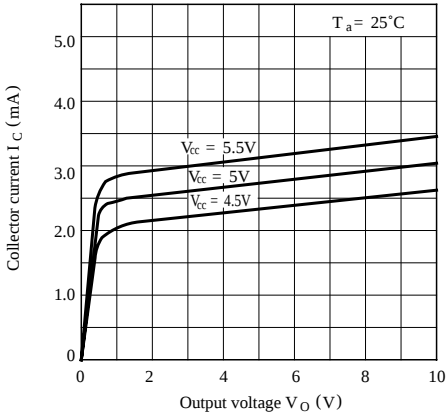


Fig. 5 Collector Current 2 vs. Ambient Temperature (Light Beam Uninterrupted)

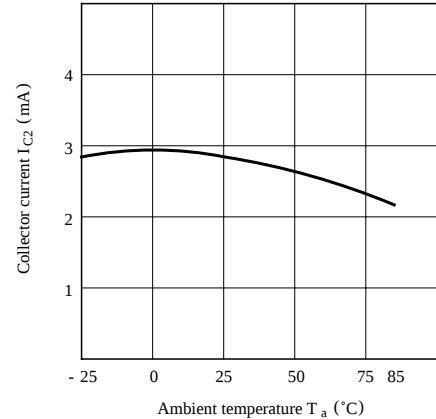


Fig. 6 Output Saturation Voltage vs. Ambient Temperature

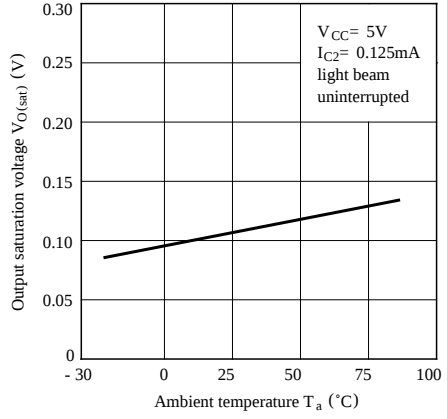


Fig. 7 Collector Current 1 vs. Ambient Temperature (Light Beam Interrupted)

