

# GP1A44E1

## Transmissive Type Photointerrupter with Actuator

### ■ Features

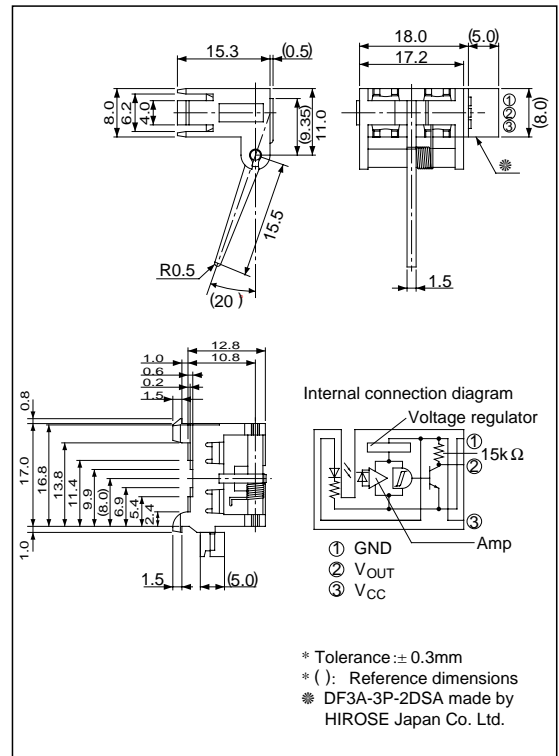
1. With compact actuator
2. Easy wiring due to built-in connector
3. Snap-in mounting type in order to mount to an equipment easily
4. OPIC output type for direct connection to microcomputer

### ■ 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 <sub>CC</sub>	- 0.5 to + 10	V
*1 Output current	I <sub>OL</sub>	50	mA
*2 Operating temperature	T <sub>opr</sub>	- 20 to + 75	°C
*2 Storage temperature	T <sub>stg</sub>	- 40 to + 85	°C

\*1 Collector current of output transistor

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

## ■ Electro-optical Characteristics

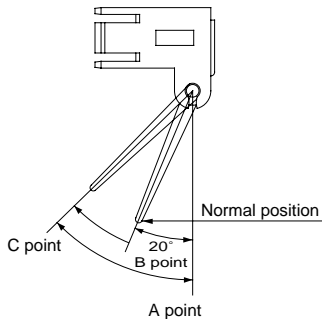
(Unless otherwise specified,  $V_{CC}= 5V$ ,  $T_a= 25^{\circ}C$ )

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	$V_{CC} \times 0.9$	-	-	V
Operating supply voltage	$V_{CC}$	$T_a = -20$ to $+75^{\circ}C$	4.5	-	5.5	V

\* Condition of light beam interrupted : Lever is normal condition on the Fig.1.

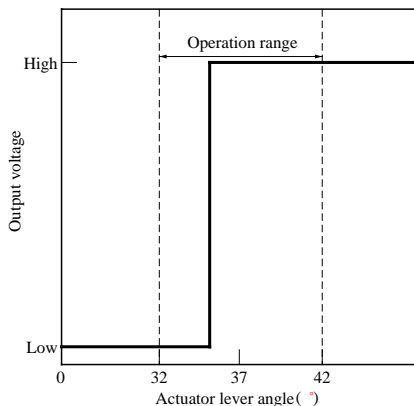
Condition of light beam uninterrupted : Lever is  $30^{\circ}$  or more movement condition from A point to B point on Fig.1.

**Fig. 1 Detecting Position**



Output voltage between A point and C point shall be from low level to high level when the actuator lever 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

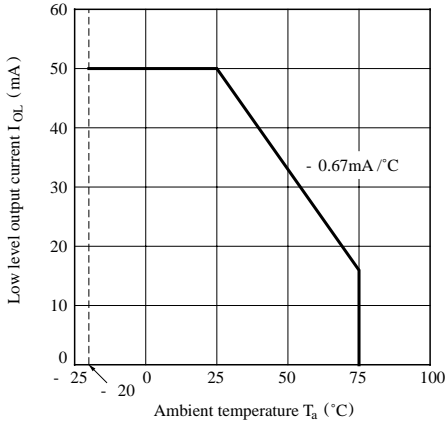
Lever starting torque:  $1 \times 10^{-4} N \cdot m$  or loss

## ■ Lever Life

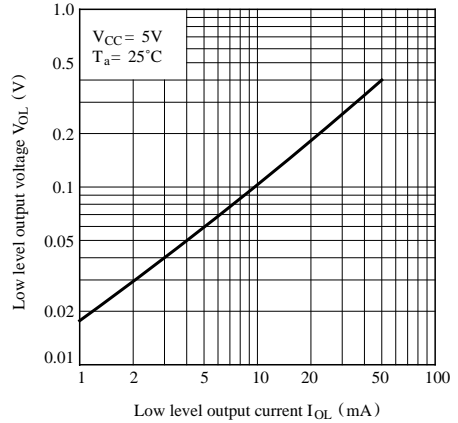
100 000 times or more

(Lever reciprocating operation between normal condition B point and C point at the condition of no load.)

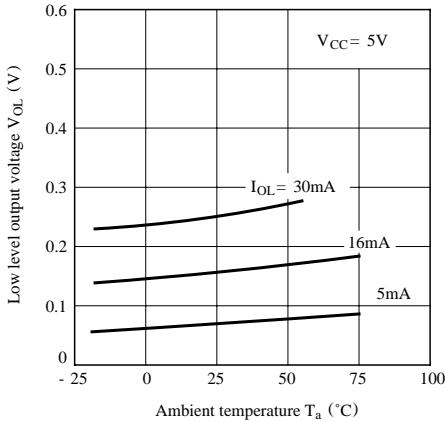
**Fig. 3 Low Level Output Current vs. Ambient Temperature**



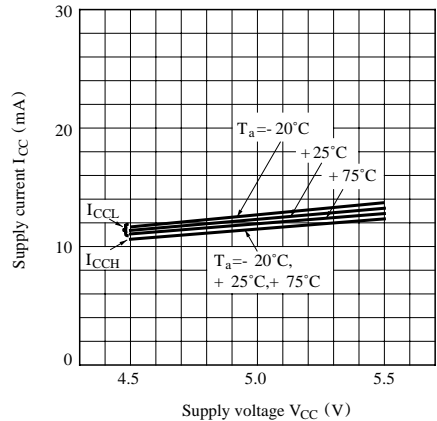
**Fig. 4 Low Level Output Voltage vs. Low Level Output Current**



**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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