

# GP1A05E2

## OPIC Photointerrupter with Connector

### ■ Features

1. 3-pin connector terminal
2. High sensing accuracy (Slit width : 0.5mm)
3. Wide gap between light emitter and detector (5mm)

### ■ Applications

1. Copiers
2. Printers
3. Facsimiles

### ■ Absolute Maximum Ratings (Ta=25°C)

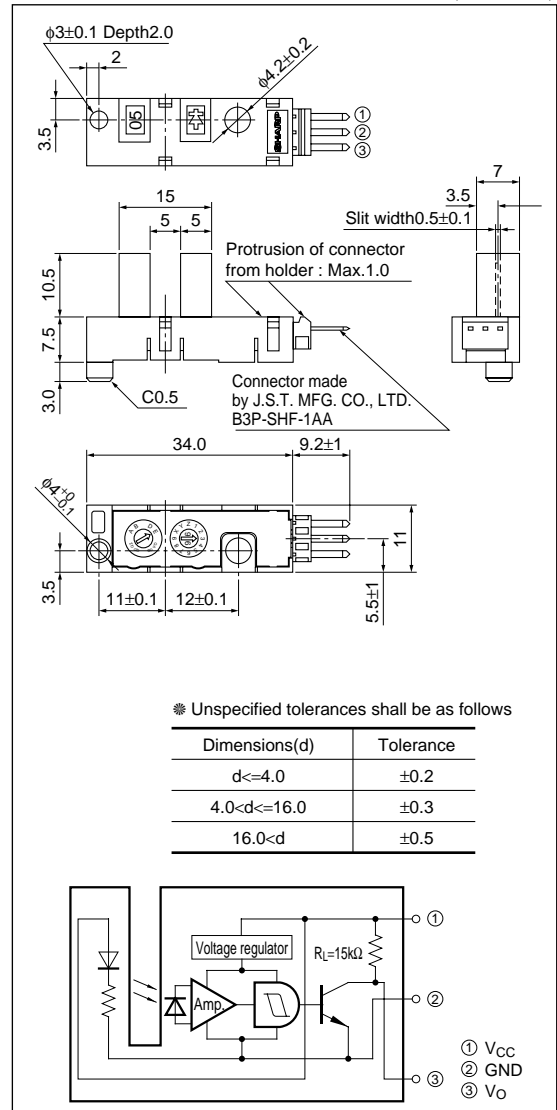
Parameter	Symbol	Rating	Unit
Supply voltage	V <sub>CC</sub>	-0.5 to +8	V
*1 Low level output current	I <sub>OL</sub>	50	mA
*2 Operating temperature	T <sub>opr</sub>	-20 to +75	°C
*2 Storage temperature	T <sub>stg</sub>	-40 to +85	°C

\*1 Collector current of output transistor

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

### ■ 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.

■ Electro-optical Characteristics

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

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Operating supply voltage	$V_{CC}$		4.5	-	5.5	V
Low level supply current	$I_{CCL}$	Light beam uninterrupted	-	-	30	mA
Low level output voltage	$V_{OL}$	Light beam uninterrupted, $I_{OL}=16mA$	-	-	0.35	V
High level supply current	$I_{CCH}$	Light beam interrupted	-	-	30	mA
High level output voltage	$V_{OH}$	Light beam interrupted, $R_L=47k\Omega$	$V_{CC}\times 0.9$	-	-	V
*4 Response frequency	f	No DC output is allowed, $R_L=47k\Omega$	-	-	3 000	Hz

\*4 Refer to Fig.1

Fig.1 Response Frequency

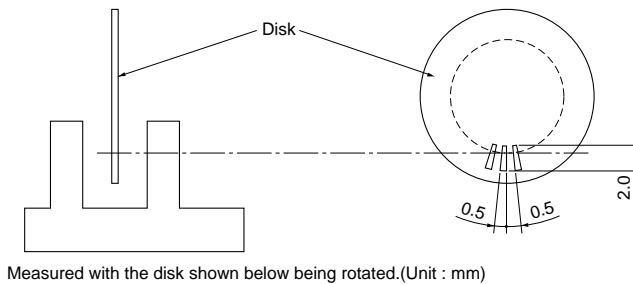


Fig.2 Low Level Output Current vs. Ambient Temperature

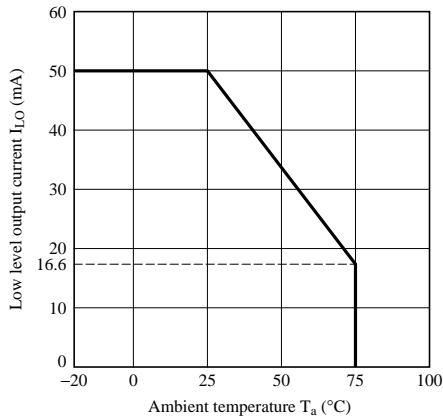
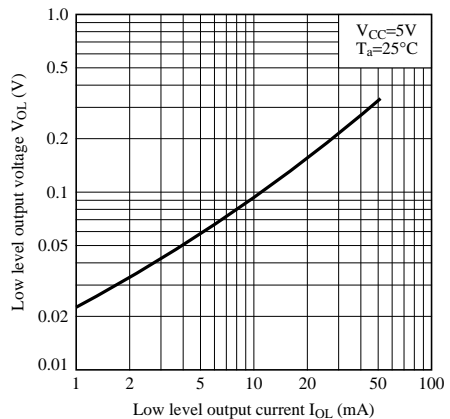
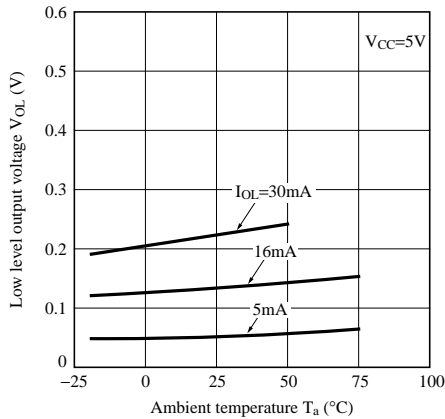


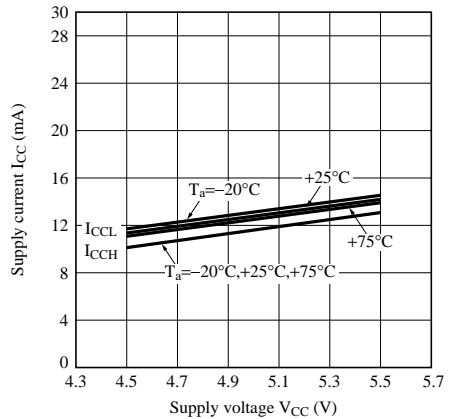
Fig.3 Low Level Output Voltage vs. Low Level Output Current



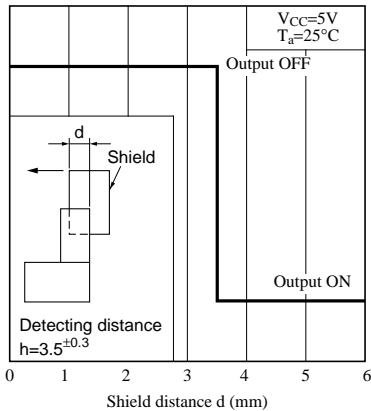
**Fig.4 Low Level Output Voltage vs. Ambient Temperature**



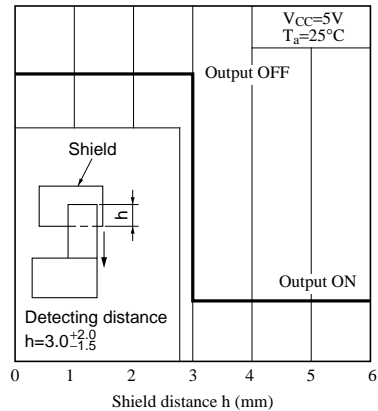
**Fig.5 Supply Current vs. Supply Voltage**



**Fig.6 Detecting Position Characteristics (1)**



**Fig.7 Detecting Position Characteristics (2)**



**Recommended Connectors on the Inserted Side**

Recommended connectors on the inserted side for GP1A05E2 is same as GP1A23LC's.

**Precautions for Use**

- It is recommended that a by-pass capacitor of more than 0.01 $\mu$ F be added between  $V_{CC}$  and GND near the device in order to stabilize power supply line.
- Please don't carry out immersion cleaning or ultrasonic cleaning to avoid keeping solvent inside case of this device.
- Remove dust or stains, using an air blower or a soft cloth moistened in cleaning solvent.  
However, do not perform the above cleaning using a soft cloth with cleaning solvent in the marking portion.  
In this case, use only the following type of cleaning solvent used for wiping off :  
Ethyl alcohol, Methyl alcohol, Isopropyl alcohol,  
When the cleaning solvents except for specified materials are used, please consult us.
- As for other general cautions, refer to the chapter "Precautions for Use."

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    - Office automation equipment
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    - Audio visual equipment
    - Consumer electronics
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    - Traffic signals
    - Gas leakage sensor breakers
    - Alarm equipment
    - Various safety devices, etc.
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