

GP1A05A5

OPIC Photointerrupter with Connector

■ Features

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

■ Applications

1. Copiers, Printers
2. Facsimiles

■ Absolute Maximum Ratings

(Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|-----------------------------|------------------|-------------|------|
| Suppl voltagey | V _{CC} | -0.5 to +8 | V |
| *1 Output voltage | V _{OUT} | -0.5 to +28 | V |
| *2 Low level output current | I _{OL} | 50 | mA |
| *3 Operating temperature | T _{opr} | -20 to +75 | °C |
| *3 Storage temperature | T _{stg} | -30 to +85 | °C |

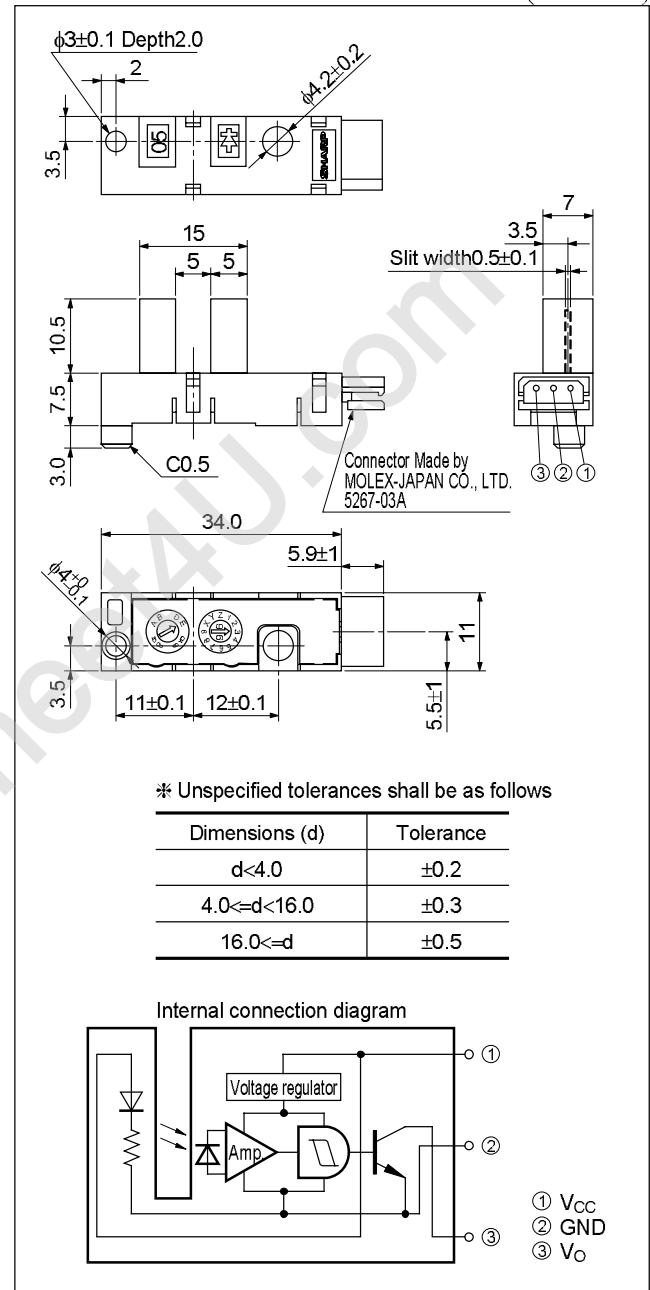
*1 Collector-emitter voltage of output transistor.

*2 Collector current of output transistor.

*3 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.

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Internet Internet address for Electronic Components Group <http://www.sharp.co.jp/ecg/>

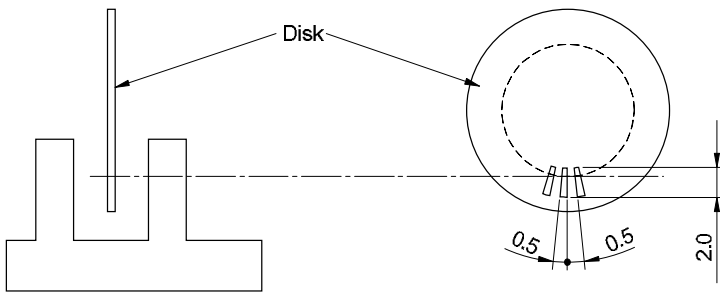
■ Electro-optical Characteristics

(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



Response frequency is measured with the disk shown below being rotated. (Unit : mm)

Fig.2 Low Level Output Current vs. Ambient Temperature

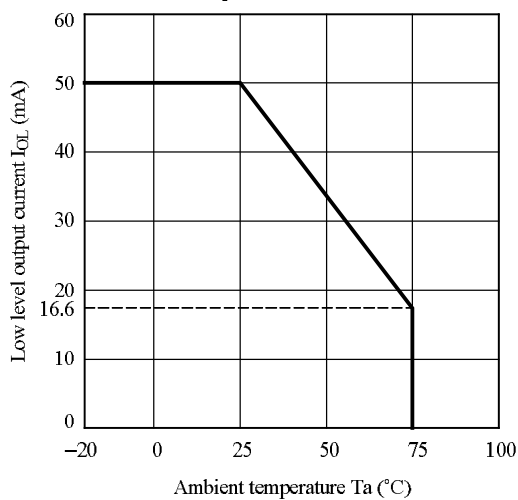


Fig.3 Low Level Output Voltage vs. Low Level Output Current

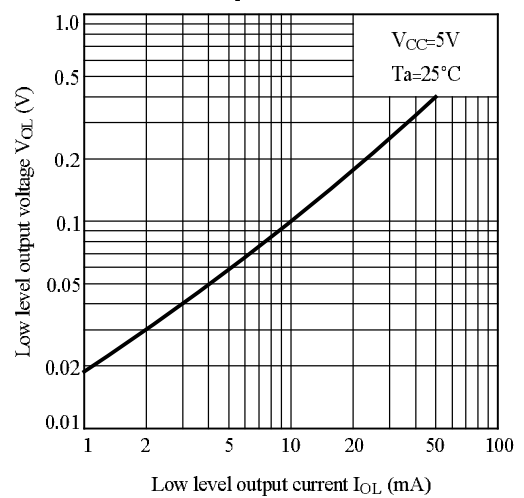


Fig.4 Low Level Output Voltage vs. Ambient Temperature

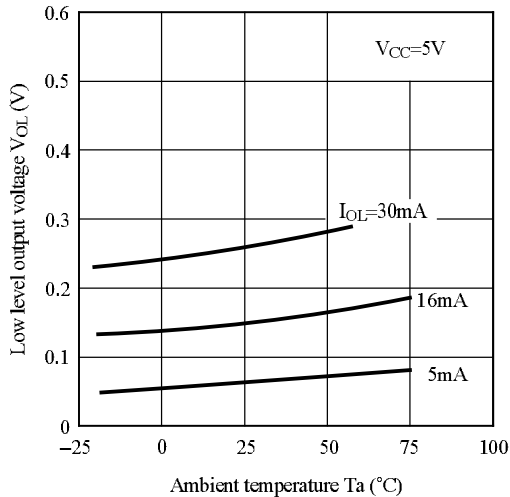


Fig.5 Supply Current vs. Supply Voltage

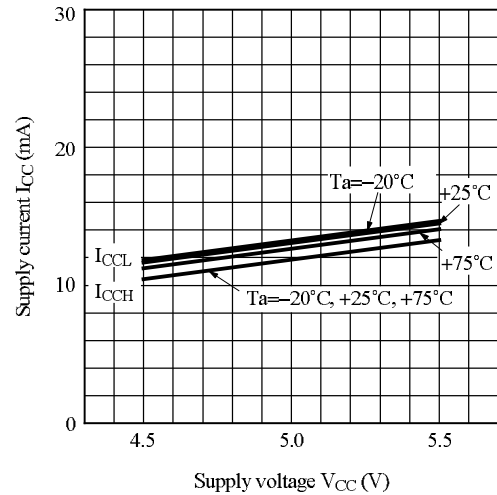


Fig.6 Detecting Position Characteristics (1)

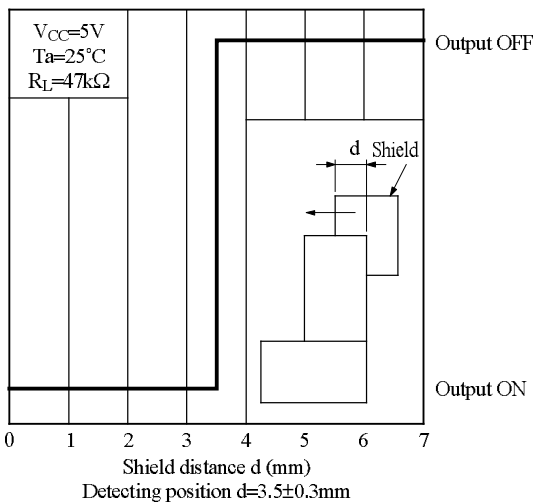
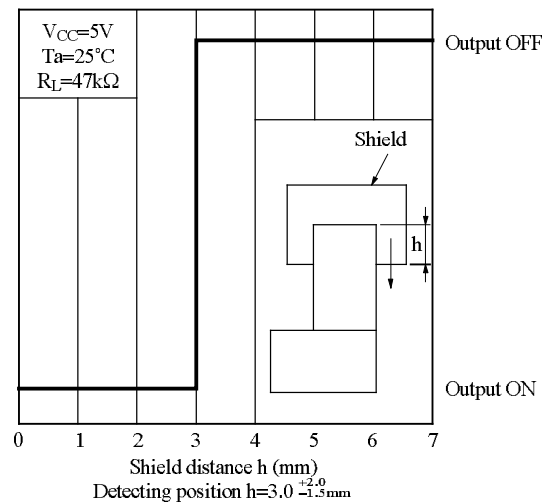


Fig.7 Detecting Position Characteristics (2)



■ Precautions for Use

1. 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.
2. Please don't carry out immersion cleaning or ultrasonic cleaning to avoid keeping solvent inside case of this device.
3. 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.
4. As for other general cautions, refer to the chapter "Precautions for Use. "

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 - Alarm equipment
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