

GP1A34LC

OPIC Photointerrupter with Connector

■ Features

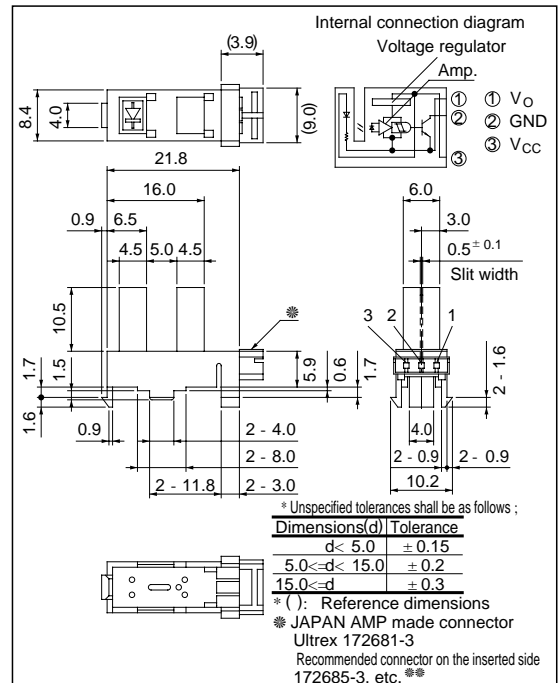
1. Snap-in mounting type
2. Can be mounted on 2 different thickness boards (1.0mm, 1.6mm) .
3. Uses 3-pin connector terminal
4. High sensing accuracy (Slit width: 0.5mm)
5. Wide gap between light emitter and detector (5mm)

■ Applications

1. Copiers, printers, 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.

※※ Recommended connectors on the inserted side are shown on the page after next.

■ Absolute Maximum Ratings (Ta = 25°C)

| Parameter | Symbol | Rating | Unit |
|-----------------------------|-----------|---------------|------|
| Supply voltage | V_{CC} | - 0.5 to + 7 | V |
| *1 Output voltage | V_O | - 0.5 to + 13 | V |
| *2 Low level output current | I_{OL} | 10 | mA |
| *3 Operating temperature | T_{opr} | - 20 to + 75 | °C |
| *3 Storage temperature | T_{stg} | - 30 to + 85 | °C |

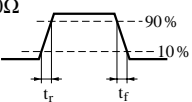
*1 Collector-emitter voltage of output transistor

*2 Collector current of output transistor

*3 The connector should be plugged in/out and the unit's hook should be used at normal temperature.

■ Electro-optical Characteristics

(V_{CC}= 5V, T_a= 25°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} = 2.5mA | - | - | 0.4 | V |
| High level supply current | | I _{CCH} | Light beam interrupted | - | - | 30 | mA |
| High level output voltage | | V _{OH} | Light beam interrupted, R _L = 47kΩ | V _{CC} x 0.9 | - | - | V |
| *5 Response frequency | | f | *4 R _L = 47kΩ , R _L = 280Ω | - | - | 3 000 | Hz |
| Response time | Rise time | t _r |  | - | 0.1 | 0.5 | μ s |
| | Fall time | t _f | | - | 0.05 | 0.5 | μ s |

*4 Output should not be DC level
*5 Response frequency is measured with the disk shown below being rotated. (Unit: mm)

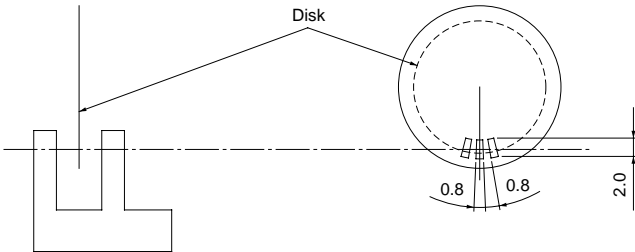


Fig. 1 Low Level Output Current vs. Ambient Temperature

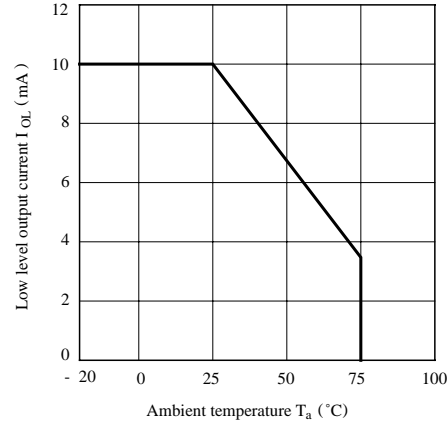


Fig. 2 Low Level Output Voltage vs. Low Level Output Current

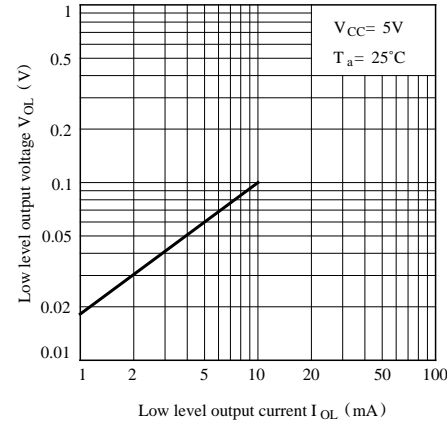


Fig. 3 Low Level Output Voltage vs. Ambient Temperature

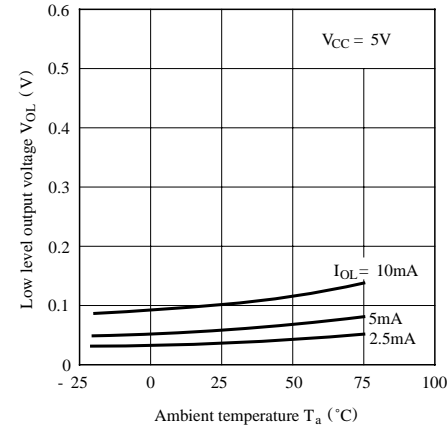


Fig. 5 Detecting Position Characteristics (1)

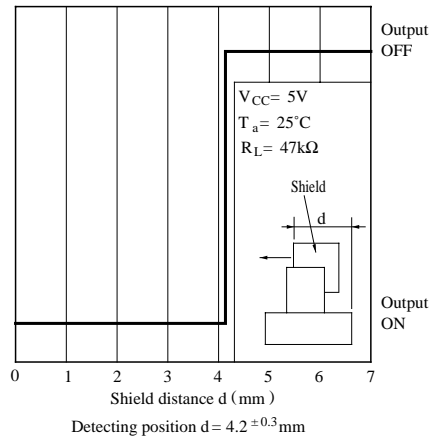


Fig. 4 Supply Current vs. Supply Voltage

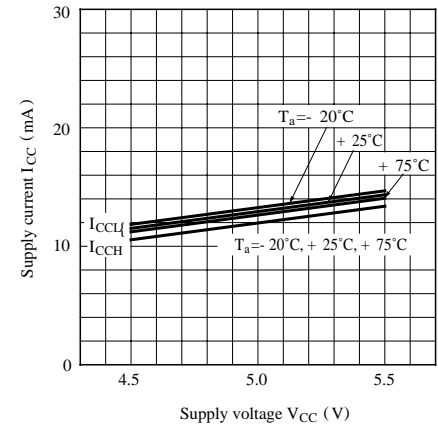
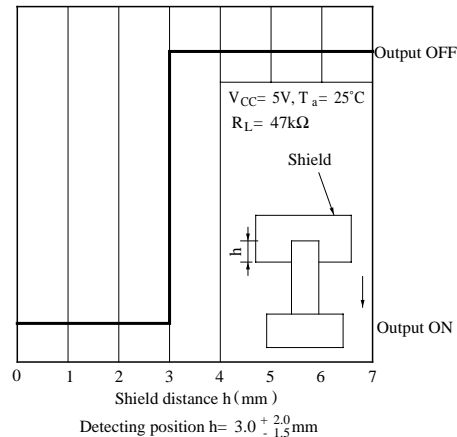


Fig. 6 Detecting Position Characteristics (2)



■ Recommended Connentors on the Inserted Side

- JAPAN AMP made Ultrex connector (Solderless type)

| Housing Model No. | 172677-3 | | | |
|----------------------------|----------|---------------|------------------|-----------|
| Special terminal Model No. | AWG size | Product shape | Material | Model No. |
| | 30 to 26 | Chain | Copper phosphide | 171609-1 |
| | | Bulk | | 171611-1 |
| | 26 to 22 | Chain | | 171610-1 |
| | | Bulk | | 171612-1 |

■ Recommended Mounting Holes

Same as **GP1S09**

- JAPAN AMP made Ultrex connector (mass termination type)

172685-3

■ Precautions for Use

- (1) In this product, the PWB is fixed with a hook, and cleaning solvent may remain inside the case; therefore, dip cleaning or ultrasonic cleaning are prohibited.
 - (2) 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.
 - (3) In order to stabilize power supply line, connect a by-pass capacitor of more than $0.01\mu\text{F}$ between Vcc and GND near the device.
 - (4) As for other general cautions, refer to the chapter “Precautions for Use”.
-