GP1A05E

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

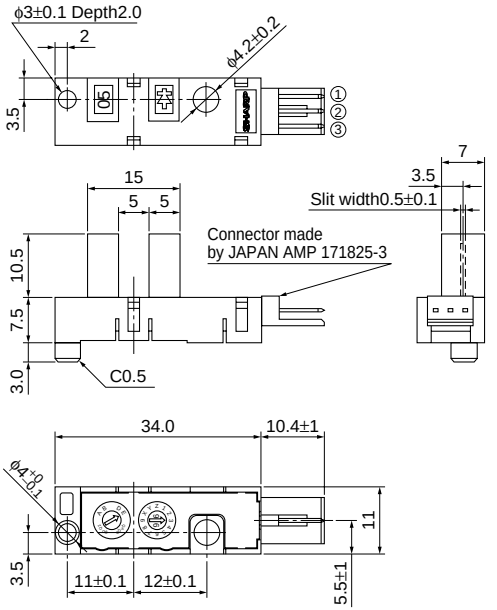
1. Copiers
2. Printers
3. Facsimiles

■ Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	−0.5 to +8	V
*1 Low level output current	I_{OL}	50	m A
*2 Operating temperature	T_{opr}	−20 to +75	˚C
*2 Storage temperature	T_{stg}	−40 to +85	˚C

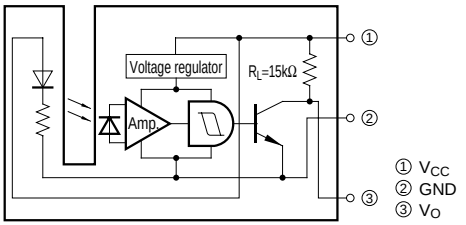
*1 Collector current of output transistor
*2 The connector should be plugged in/out at normal temperature.

■ Outline Dimensions (Unit : mm)



✵ Unspecified tolerances shall be as follows

Dimensions (d)	Tolerance
d<4.0	±0.2
4.0<=d<16.0	±0.3
16.0<=d	±0.5



* "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/

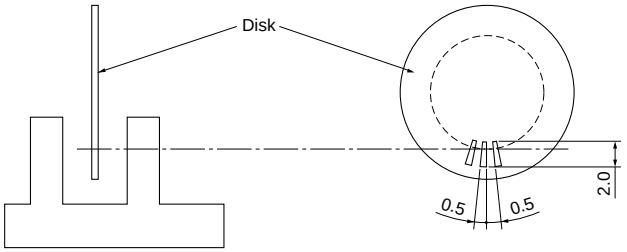
■ Electro-optical Characteristics

(Vcc=5V, Ta=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, IOL=16mA	–	–	0.35	V
High level supply current	I_{CCH}	Light beam interrupted	–	–	30	mA
High level output voltage	V_{OH}	Light beam interrupted	V_{CC}×0.9	–	–	V
*3 Response frequency	f	*4	–	–	3 000	Hz

*3 Refer to Fig.1
*4 No DC output is allowed.

Fig.1 Response Frequency



Measured with the disk shown below being rotated.(Unit : mm)

Fig.2 Low Level Output Current vs. Ambient Temperature

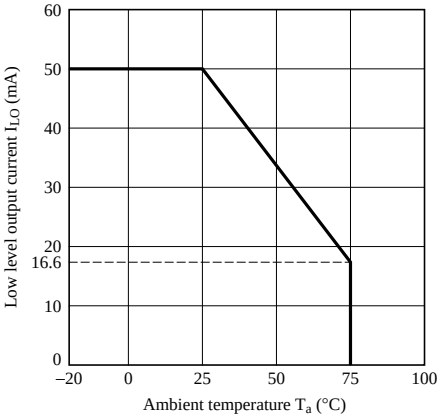


Fig.3 Low Level Output Voltage vs. Low Level Output Current

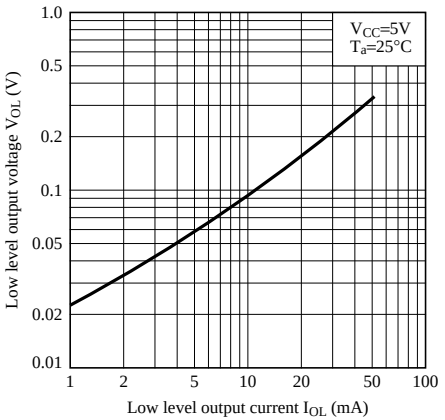


Fig.4 Low Level Output Voltage vs. Ambient Temperature

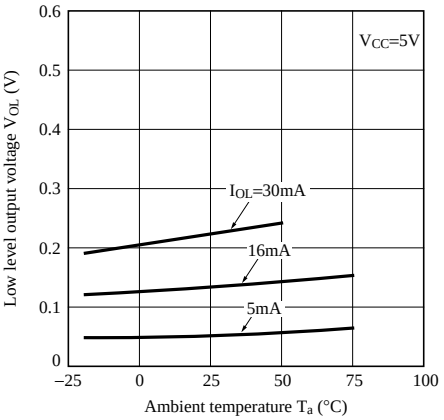


Fig.5 Supply Current vs. Supply Voltage

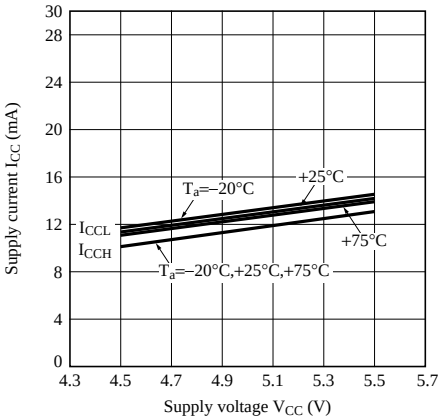


Fig.6 Detecting Position Characteristics (1)

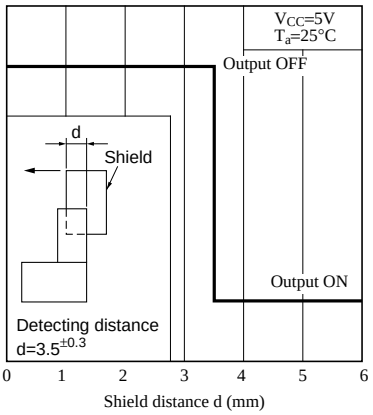
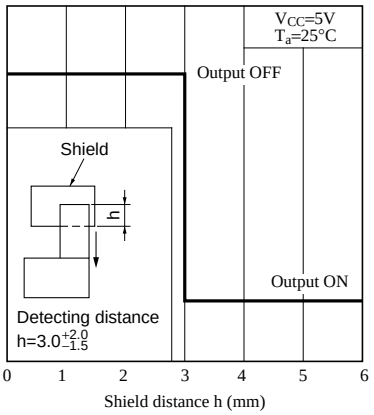


Fig.7 Detecting Position Characteristics (2)



■ Recommended Connectors on the Inserted Side

Recommended connectors on the inserted side for **GP1A05E** is same as **GP1A05**'s and **GP1A05A**'s.

■ Precautions for Use

1. It is recommended that a by-pass capacitor of more than 0.01µF 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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- Office automation equipment
- Telecommunication equipment [terminal]
- Test and measurement equipment
- Industrial control
- 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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