GP1A05A2

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

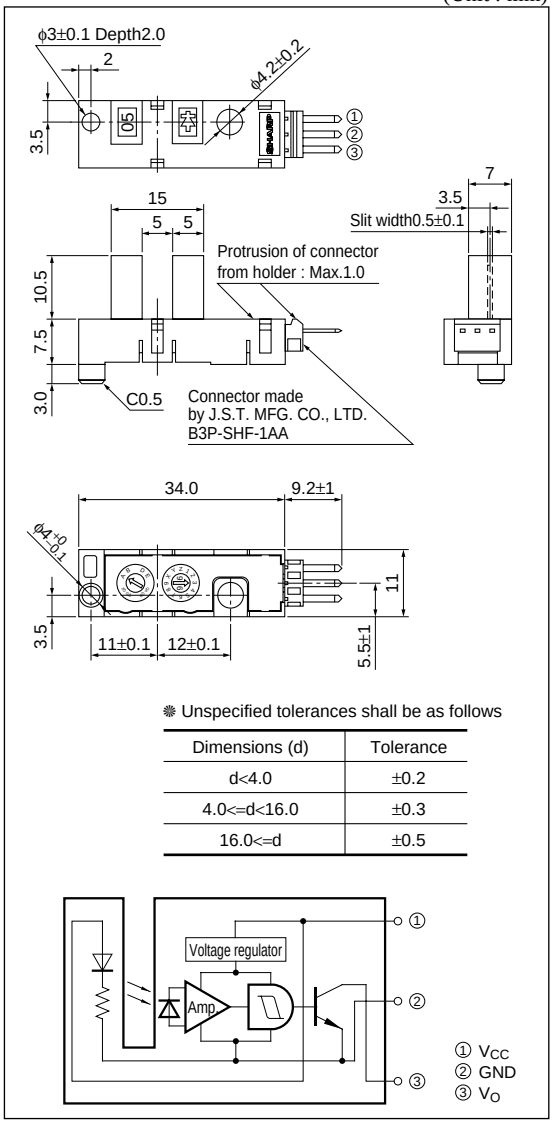
1. Copiers, Printers
2. Facsimiles

■ 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}	−40 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)



❋ 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.

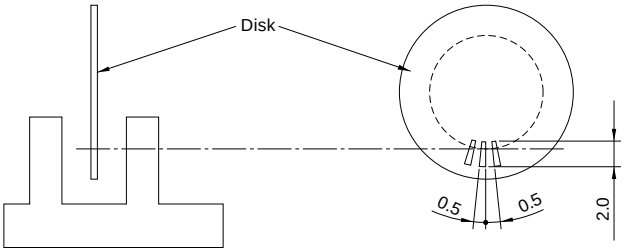
■ Electro-optical Characteristics

(Unless otherwise specified, V_{CC}=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, 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=47kΩ	V_{CC}×0.9	–	–	V
*4 Response frequency	f	No DC output is allowed, R_L=47kΩ	–	–	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

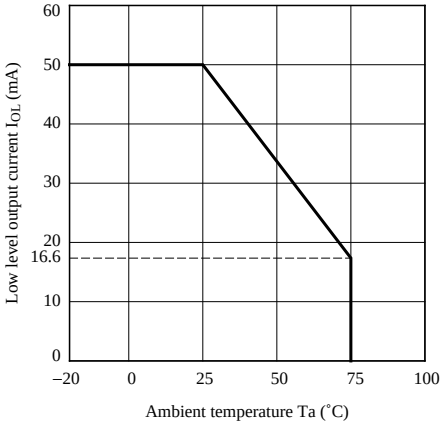


Fig.3 Low Level Output Voltage vs. Low Level Output Current

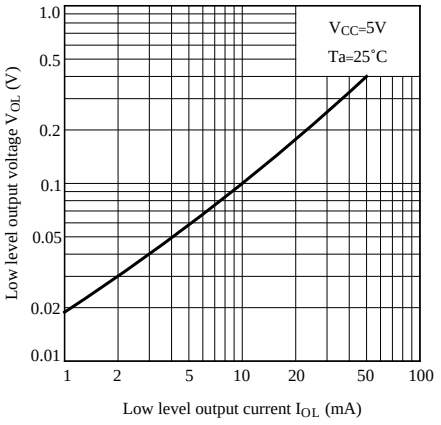


Fig.4 Low Level Output Voltage vs. Ambient Temperature

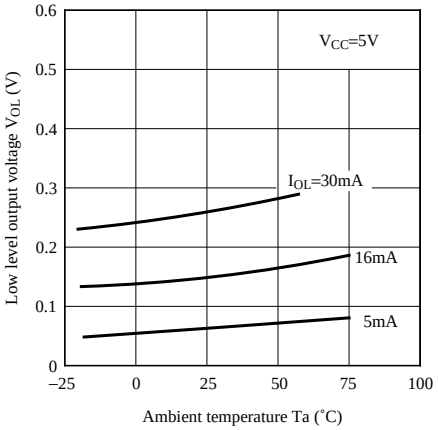


Fig.5 Supply Current vs. Supply Voltage

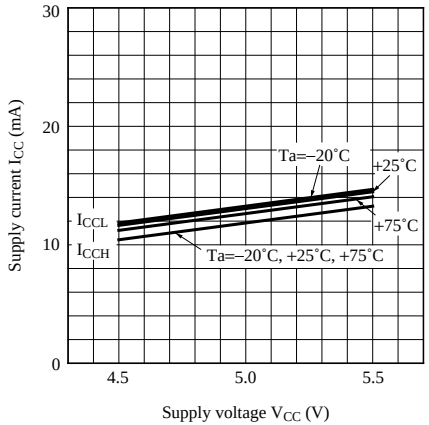
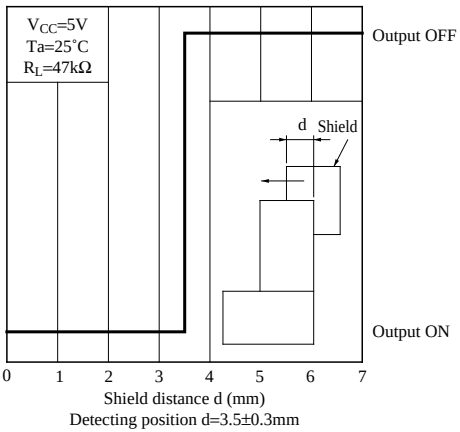
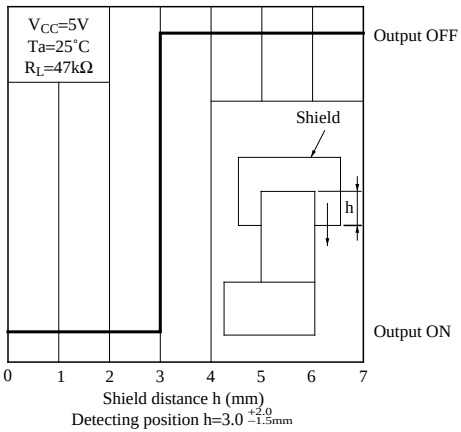


Fig.6 Detecting Position Characteristics (1)



Detecting position d=3.5±0.3mm

Fig.7 Detecting Position Characteristics (2)



Detecting position h=3.0 $^{+2.0}_{-1.5mm}$

■ Recommended Connectors on the Inserted Side

◆ JAPAN SOLDERLESS TERMINAL MFG. CO., LTD. made

(Natural color • bulk)

Housing Model No.	H3P-SHF-AA			S3P-SHF-1		
Special terminal Model. No.	AWG size	Material	Model No.	AWG size	Material	Model No.
	AWG 28 to 22	Brass	SHF-001T-0.8SS	AWG 27 to 22	Brass	SHF-001T-0.8P
		Copper phosphide	SHF-001T-0.8BS		Copper phosphide	–
	AWG 30 to 28	Brass	SHF-002T-0.8SS	AWG 30 to 28	Brass	SHF-002T-0.8P
		Copper phosphide	SHF-002T-0.8BS		Copper phosphide	–

■ 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]
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— 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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