GP1A21

OPIC Photointerrupter with Connector

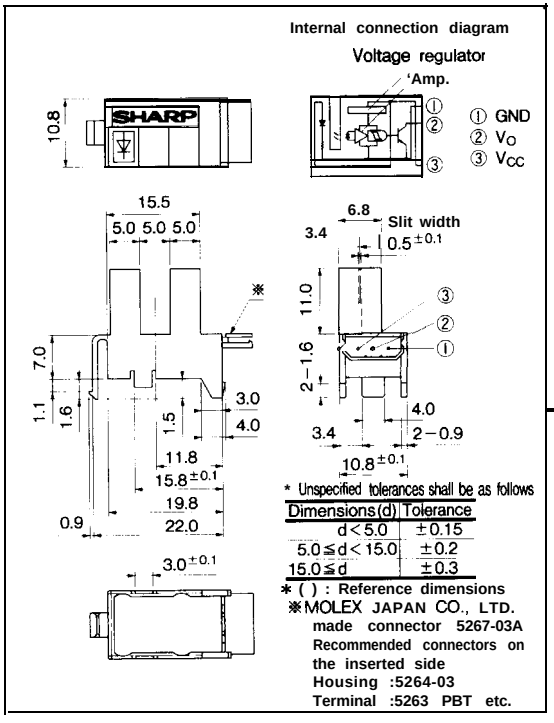
■ Features

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

■ Applications

1. Copiers
2. Printers
3. Facsimiles

■ Outline Dimensions (Unit : mm)



*"OPIC" (Optical IC) is a trademark of the SHARP Corporati
An OPIC consists of a light-detecting element and signal-processing circuit integrated onto a single chip.

Note) Terminal No. shown in the above figure is sometimes different from the number shown on the connector.

■ Absolute Maximum Ratings (Ta = 25℃)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	−0.5 to +7	v
*1 Output voltage	Vo	− 0.5 to +28	V
*2 Low level output current	I_{OL}	50	mA
'Operating temperature	T_{opr}	−20 to +75	'c
*3 Storage temperature	T_{stg}	−30 to +85	℃

*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

(Unless otherwise specified, V_{CC}=5V, Ta=25℃)

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
*Response frequency	f	*4 R_L=47kΩ	−	−	3000	Hz

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

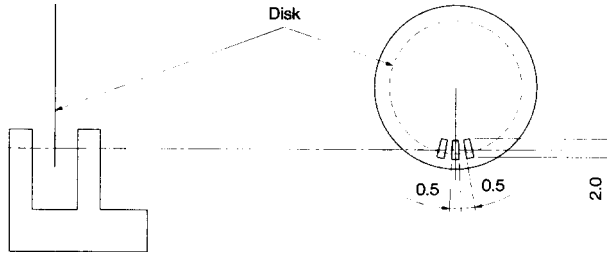
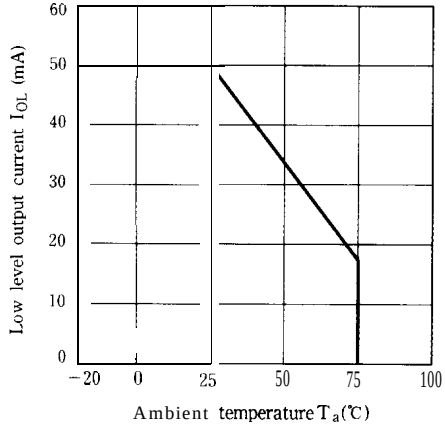


Fig. 1 Low Level Output Current vs. Ambient Temperature



5.2 Low Level **Output Voltage** vs. **Low Level Output Current**

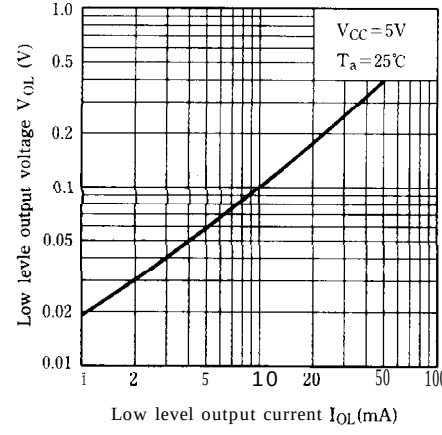


Fig. 3 Low Level Output Voltage vs. Ambient Temperature

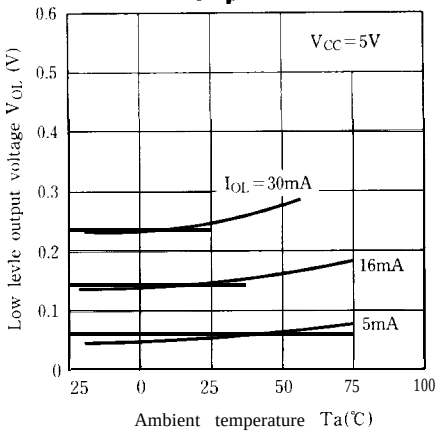


Fig. 4 **Supply Current vs.Supply** voltage

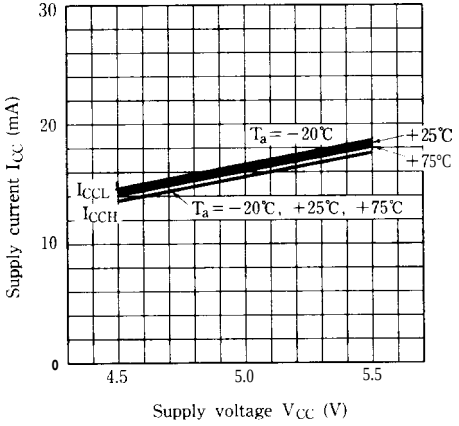
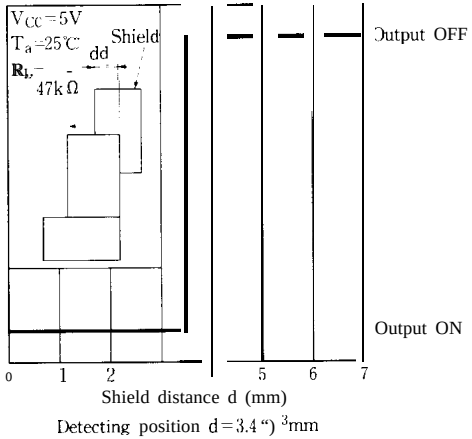
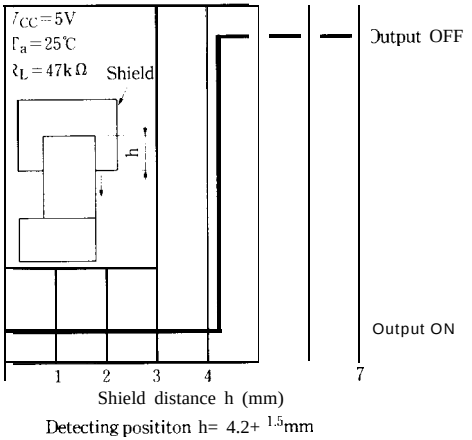


Fig. 5 Detecting Position Characteristics (1)



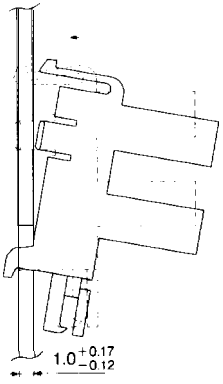
Detecting position d=3.4 ") ^{3}mm

Fig. 6 Detecting Position Characteristics (2)

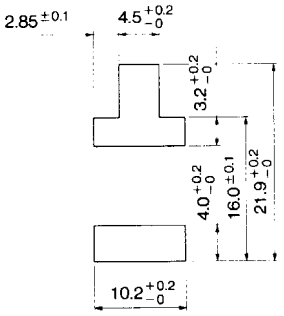


Detecting posititon h= 4.2+ $^{1.5}$mm

■ **Recommended Mounting Holes** (Following dimensions are recommended values, so confirm the intencity by using actual equipment before mounting.)



Mounting method



Recommended mounting holes (Unit mm)

■ Precautions for Use

(1) In this product, the PWB is fixed with a resin cover, and cleaning solvent may remain inside the case; therefore, dip cleaning or ultrasonic cleaning are prohibited.

(2) Remove dust or stains, using anair blower or soft cloth moistened in cleaning solvent. However, do not perform the above cleaning using a soft cloth with cleaning solvevt 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 μF between Vcc and GND near the device.

(4) As for other general cautions, refer to the chapter “Precautions for Use.” (Page 78 to 93)