

# GP1A05HR/GP1A22HR

## OPIC Photointerrupter with Connector

### ■ Features

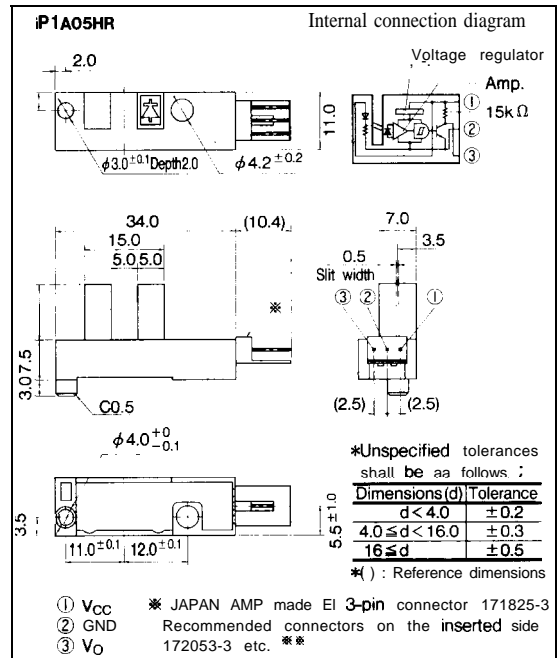
1. 3-pin connector-terminal
2. High sensing accuracy (Slit width: 0.5mm)
3. Wide gap between light emitter and detector (5mm)

### ■ Applications

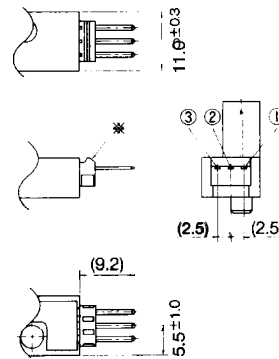
1. Copiers
2. Printers
3. Facsimiles

### ■ Outline Dimensions

(Unit : mm)



### GP1A22HR (Same as GP1A05HR except connector)



- \*"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 <sub>CC</sub>	-0.5 to 8	V
*1 Low level output current	I <sub>OL</sub>	1 50	mA
*2 Operating temperature	T <sub>opr</sub>	-20 to +75	°C
*3 Storage temperature	T <sub>str</sub>	-40 to +85	°C

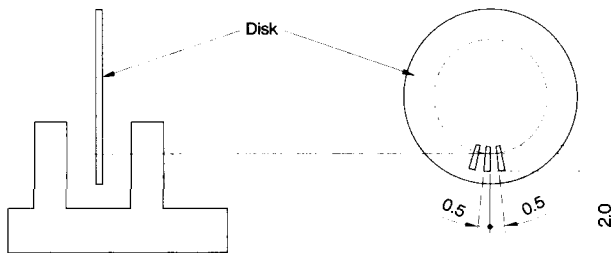
- \*1 Collector current of output transistor
- \*2 The connector should be plugged in/out at normal temperature

**Electro-optical Characteristics**

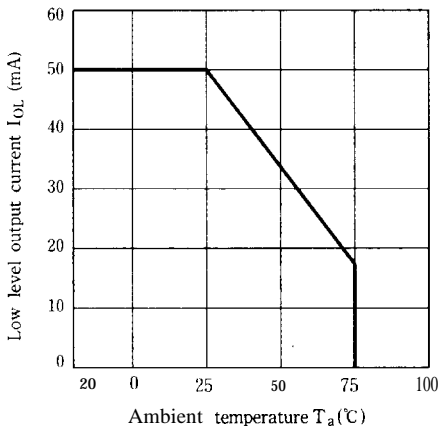
(V<sub>CC</sub> = 5V, Ta = 25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Operating supply voltage	V <sub>CC</sub>		4.5	—	5.5	V
Low level supply current	I <sub>CCL</sub>	Light beam interrupted	—	—	30	mA
Low level output voltage	V <sub>OL</sub>	Light beam interrupted, I <sub>OL</sub> = 16mA	—	—	0.4	v
High level supply current	I <sub>CCH</sub>	Light beam uninterrupted	—	—	30	mA
High level output voltage	V <sub>OH</sub>	Light beam uninterrupted	V <sub>CC</sub> × 0.9	—	—	v
*4 Response Frequency	f	*3	—	—	3000	Hz

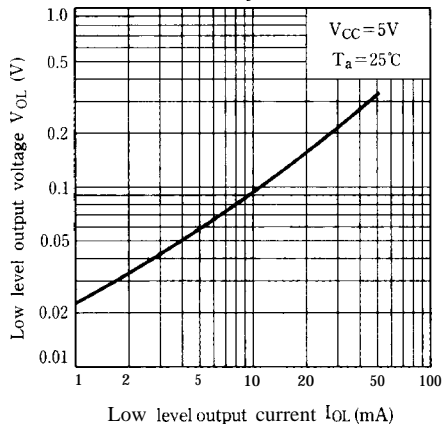
- \*3 NO DC output is allowed.
- \*4 Response frequency is measured with the disk shown below being rotated. (Unit : mm)



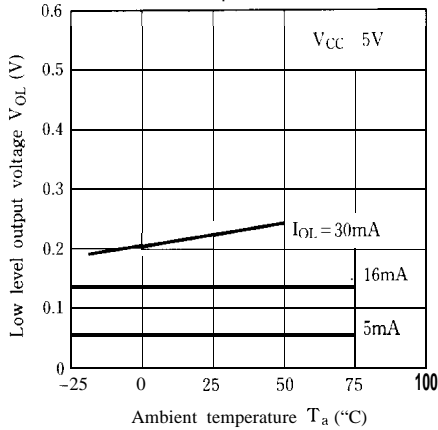
**Fig.1 Low Level Output Current vs. Ambient Temperature**



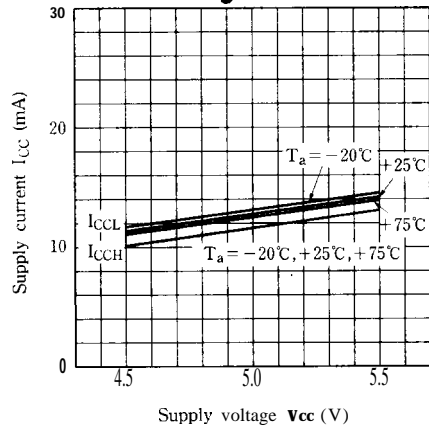
**Fig.2 Low Level Output Voltage vs. Low Level Output Current**



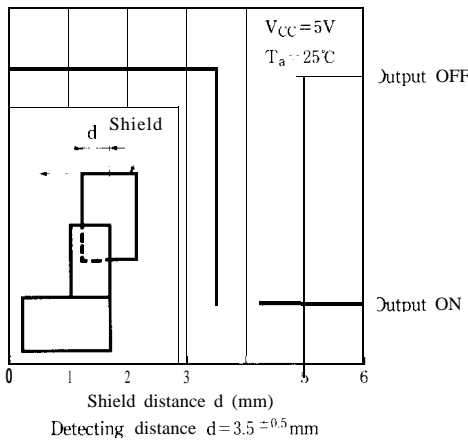
**Fig. 3 Low Level Output Voltage vs. Ambient Temperature**



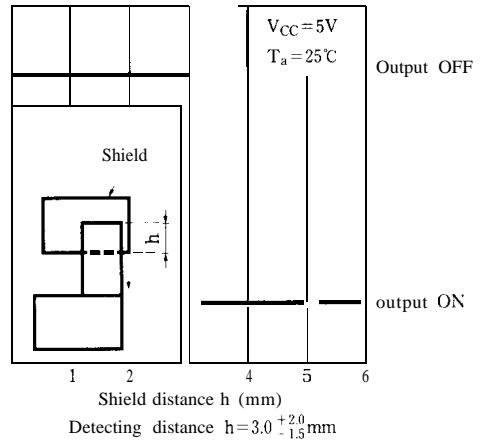
**Fig. 4 Supply Current vs. Supply Voltage**



**Fig. 5 Detecting Position Characteristics (1)**



**Fig. 6 Detecting Position Characteristics (2)**



■ Recommended Connectors on **the Inserted Side**

Recommended connector for GP1A05HR is same as **GP1 A05's**.  
 Recommended connector for **GP1 A22HR** is same as **GP1 A23LC'S**.  
 (Refer to page 667.)

■ Precautions for Use

- (1) It is recommended that a by-pass capacitor of more than  $0.01 \mu\text{F}$  be added between  $V_{CC}$  and GND near the device in order to stabilize power supply line.
- (2) 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 is prohibited.
- (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 expect for specifeid materials are used, please consult us.

- (4) As for other general cautions, refer to the chapter "Precautions for Use" (Page 78 to 93)