

# GP1A71A/GP1A71A1

## Compact Size OPIC Photointerrupter with Connector

### ■ Features

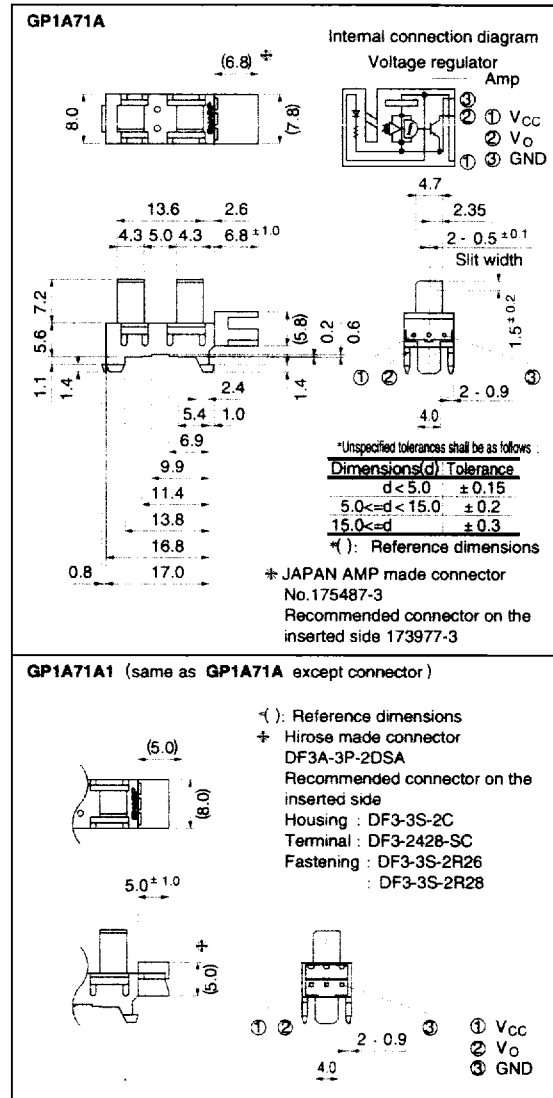
1. Compact type
2. Snap-in mounting type
3. Can be mounted on 3 different thickness boards  
( 1.0mm, 1.2mm, 1.6mm )
4. 3-pin connector terminal

### ■ Applications

1. Copiers
2. Laser beam printers
3. 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.

■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V <sub>CC</sub>	- 0.5 to + 10	V
*1 Output voltage	V <sub>out</sub>	- 0.5 to + 28	V
*2 Low level output current	I <sub>OL</sub>	50	mA
*3 Operating temperature	T <sub>opr</sub>	- 20 to + 75	°C
*3 Storage temperature	T <sub>stg</sub>	- 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 (Unless otherwise specified 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 uninterrupted	-	-	16.5	mA	
Low level output voltage	V <sub>OL</sub>	Light beam uninterrupted, I <sub>OL</sub> = 16mA	-	-	0.35	V	
High level supply current	I <sub>CCH</sub>	Light beam interrupted	-	-	16.5	mA	
High level output voltage	V <sub>OH</sub>	Light beam interrupted, R <sub>L</sub> = 47kΩ	V <sub>CC</sub> x 0.9	-	-	V	
Response characteristics	Minimum interruption time	t <sub>H</sub>	R <sub>L</sub> = 4.7kΩ	-	-	166	μs
	Minimum sensing time	t <sub>L</sub>		-	-	166	μs

Fig. 1 Low Level Output Current vs. Ambient Temperature

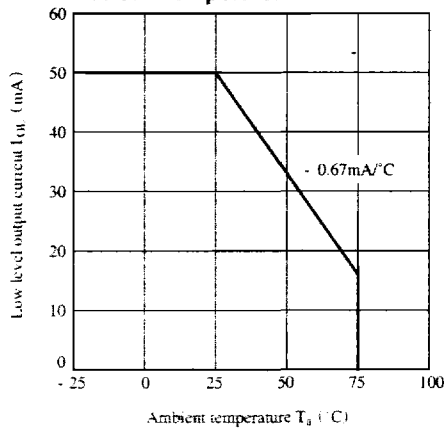


Fig. 2 Low Level Output Voltage vs. Low Level Output Current

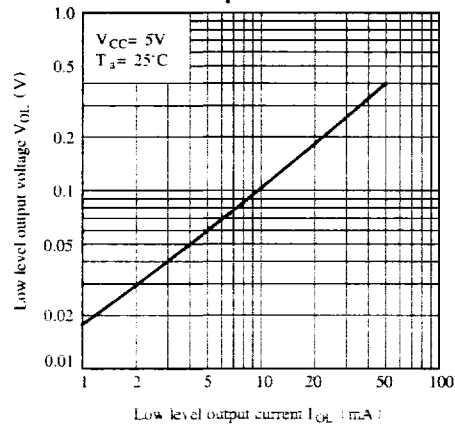


Fig. 3 Low Level Output Voltage vs. Ambient Temperature

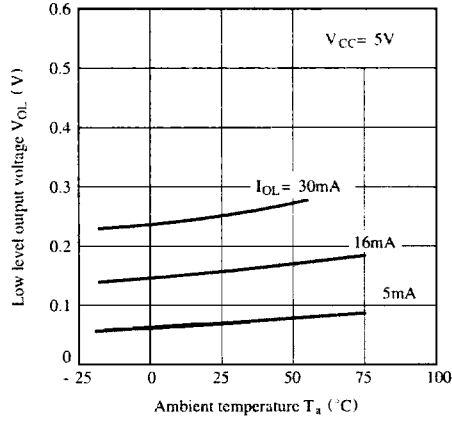


Fig. 4 Supply Current vs. Supply Voltage

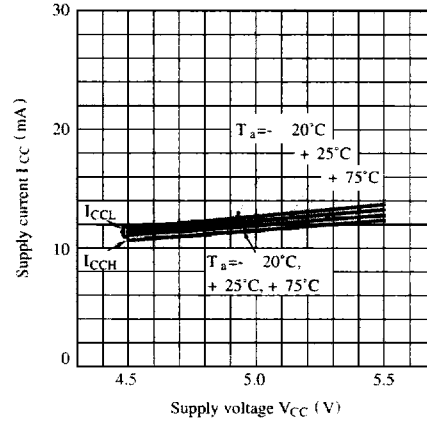


Fig. 5 Detecting Position Characteristics (1)

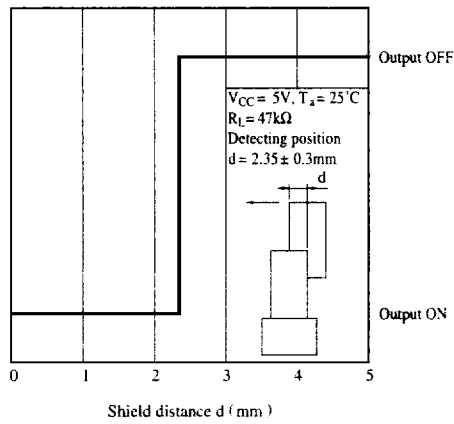
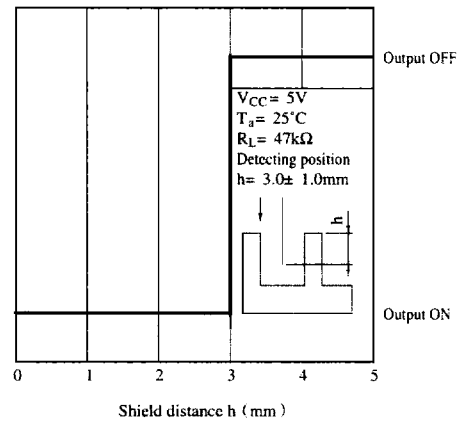
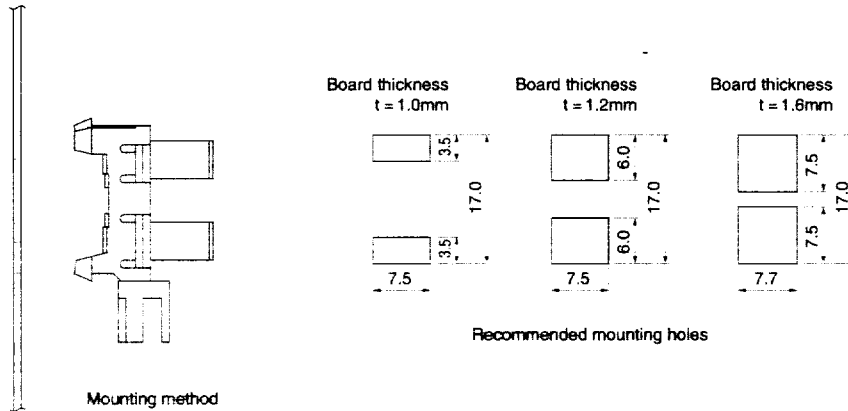


Fig. 6 Detecting Position Characteristics (2)



■ Recommended Mounting Holes (Unit : mm)



**■ 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 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".
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