

GP1A71A/GP1A71A1

Compact Size OPIC Photointerrupter with Connector

■ Features

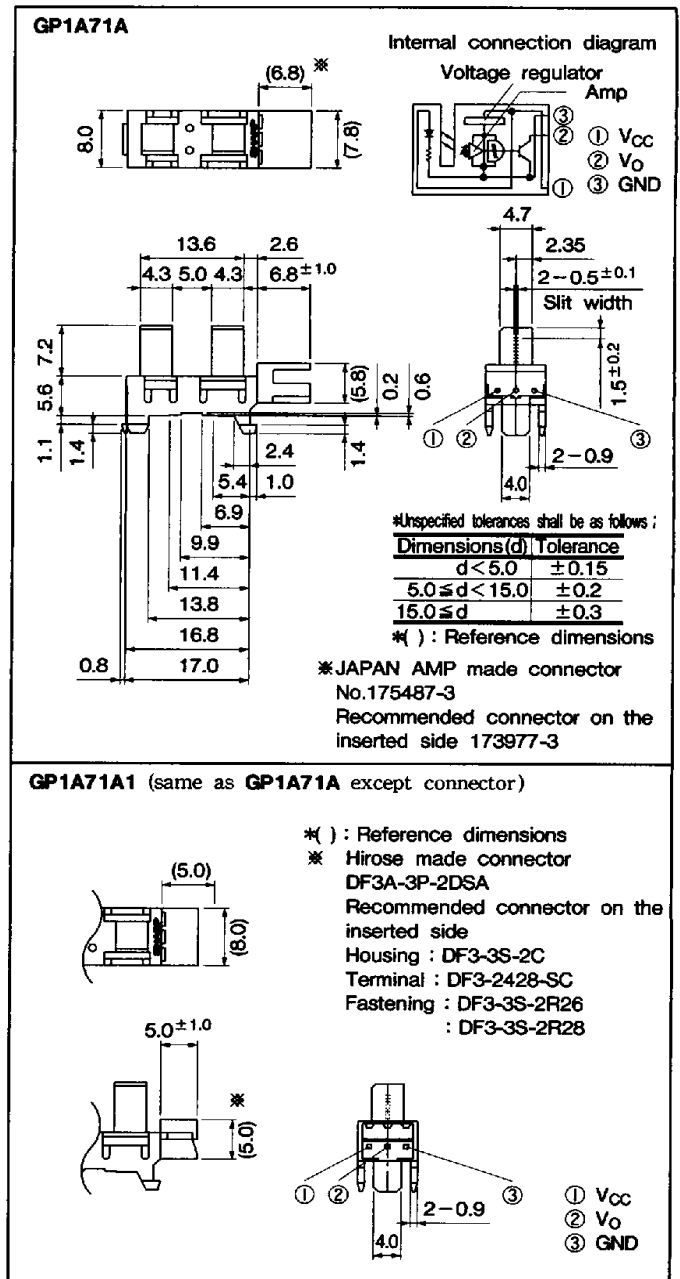
1. Compact type
2. Snap-in mounting type
3. Can be mounted on 3 different thickness boards (1.0mm, 1.2mm, 1.6mm)
4. 3-pin connector terminal

■ 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.

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■ **Absolute Maximum Ratings** (Ta = 25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	-0.5 to +10	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}	-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_{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	—	—	16.5	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	—	—	16.5	mA
High level output voltage		V _{OH}	Light beam interrupted, R _L = 47kΩ	V _{CC} × 0.9	—	—	V
Response characteristics	Minimum interruption time	t _H	R _L = 4.7kΩ	166	—	—	μs
	Minimum sensing time	t _L		166	—	—	μs

Photointerrupters



Fig. 1 Low Level Output Current vs. Ambient Temperature

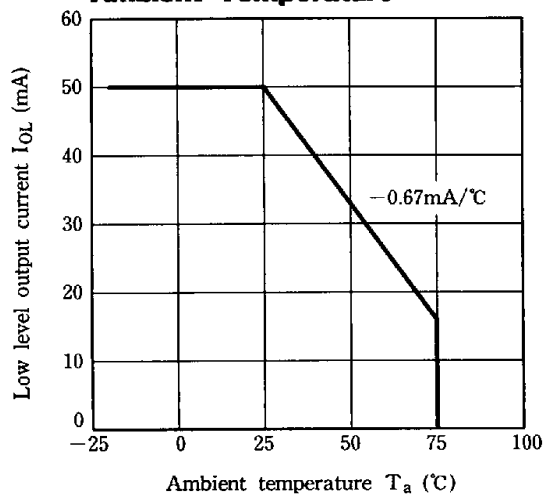


Fig. 2 Low Level Output Voltage vs. Low Level Output Current

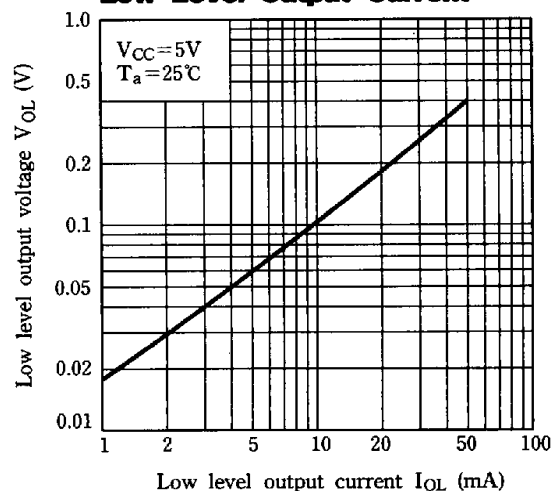


Fig. 3 Low Level Output Voltage vs. Ambient Temperature

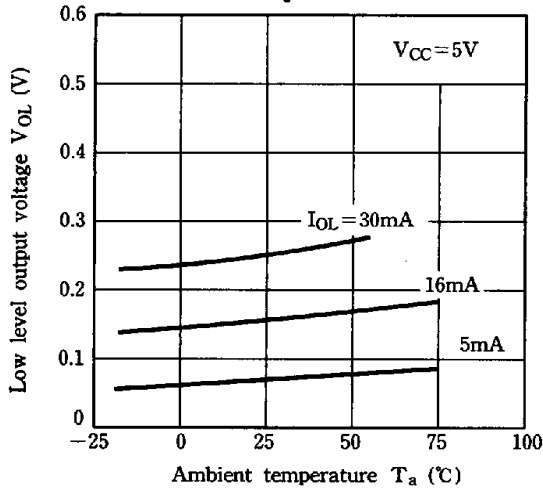


Fig. 4 Supply Current vs. Supply Voltage

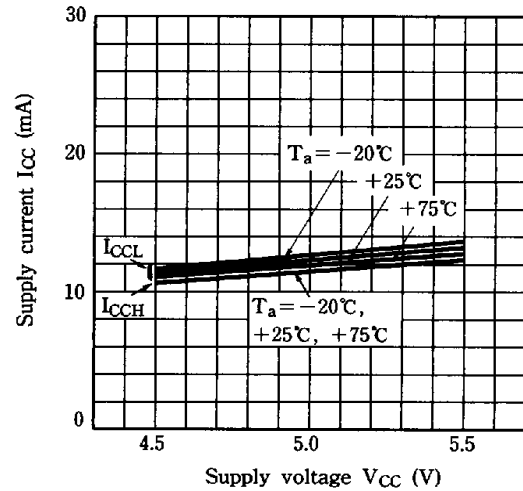


Fig. 5 Detecting Position Characteristics (1)

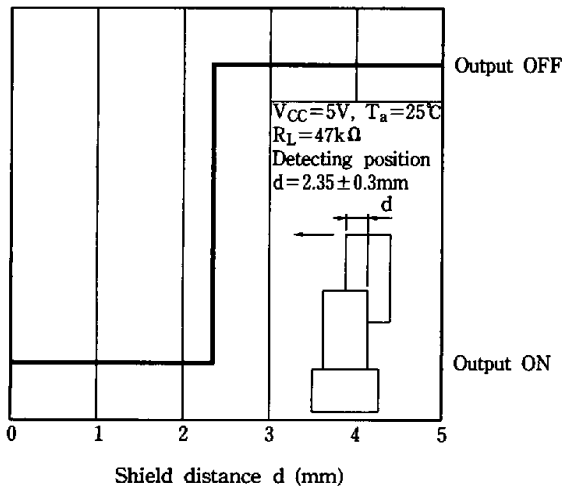
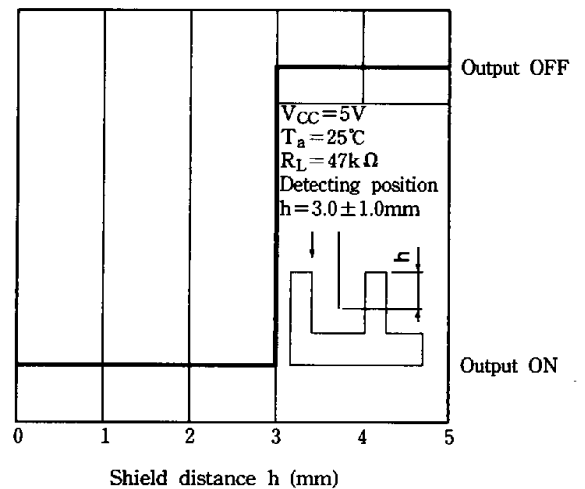
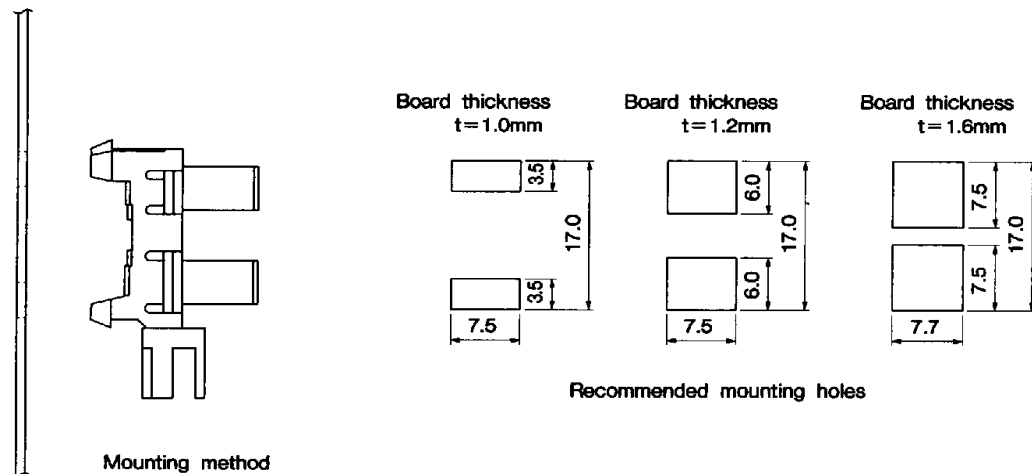


Fig. 6 Detecting Position Characteristics (2)



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 $0.01 \mu F$ between Vcc and GND near the device.
- (4) As for other general cautions, refer to the chapter "Precautions for Use" (Page 78 to 93).