

# GP1A34LC

## OPIC Photointerrupter with Connector

### ■ Features

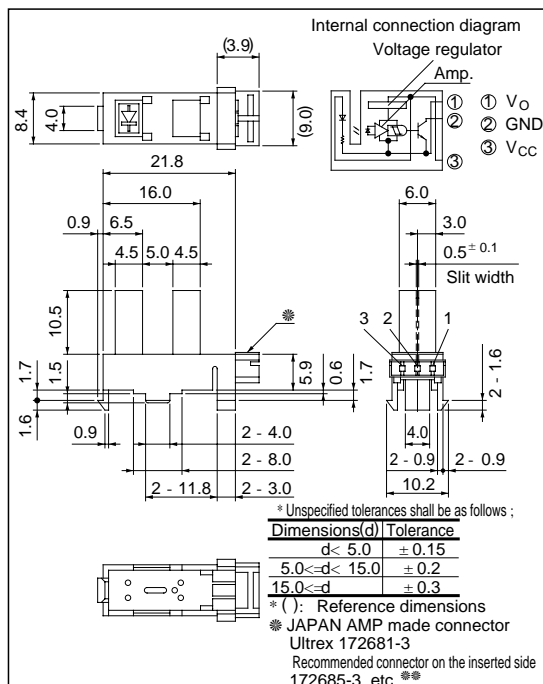
1. Snap-in mounting type
2. Can be mounted on 2 different thickness boards (1.0mm, 1.6mm).
3. Uses 3-pin connector terminal
4. High sensing accuracy (Slit width: 0.5mm)
5. Wide gap between light emitter and detector (5mm)

### ■ Applications

1. Copiers, printers, 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.

※※ 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	$V_{CC}$	- 0.5 to + 7	V
*1 Output voltage	$V_O$	- 0.5 to + 13	V
*2 Low level output current	$I_{OL}$	10	mA
*3 Operating temperature	$T_{opr}$	- 20 to + 75	°C
*3 Storage temperature	$T_{stg}$	- 30 to + 85	°C

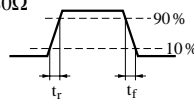
\*1 Collector-emitter voltage of output transistor

\*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

( $V_{CC}= 5V, T_a= 25^{\circ}C$ )

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, $I_{OL}= 2.5mA$	-	-	0.4	V
High level supply current		$I_{CCH}$	Light beam interrupted	-	-	30	mA
High level output voltage		$V_{OH}$	Light beam interrupted, $R_L= 47k\Omega$	$V_{CC} \times 0.9$	-	-	V
*5 Response frequency		f	*4 $R_L= 47k\Omega$ , $R_L= 280\Omega$	-	-	3 000	Hz
Response time	Rise time	$t_r$		-	0.1	0.5	$\mu s$
	Fall time	$t_f$		-	0.05	0.5	$\mu s$

\*4 Output should not be DC level

\*5 Response frequency is measured with the disk shown below being rotated. (Unit : mm)

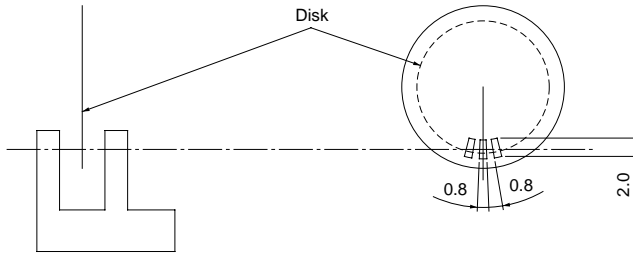


Fig. 1 Low Level Output Current vs. Ambient Temperature

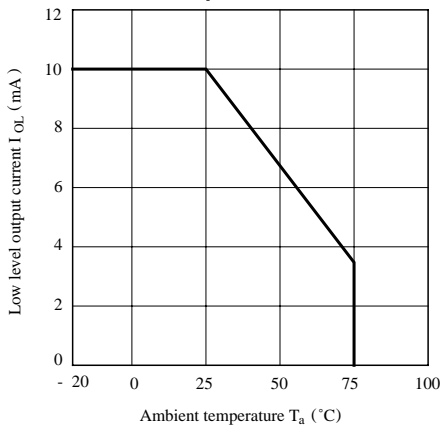
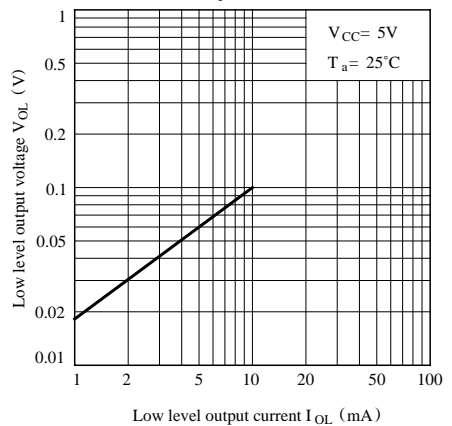
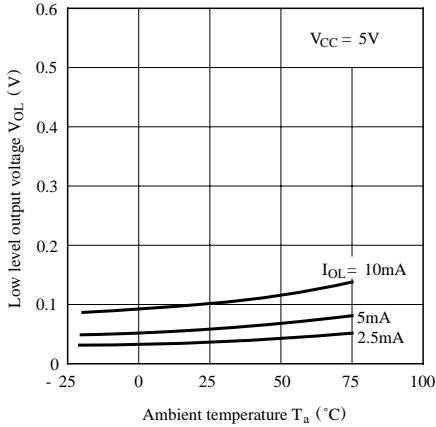


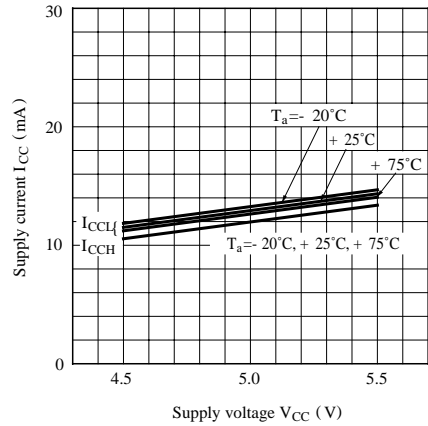
Fig. 2 Low Level Output Voltage vs. Low Level Output Current



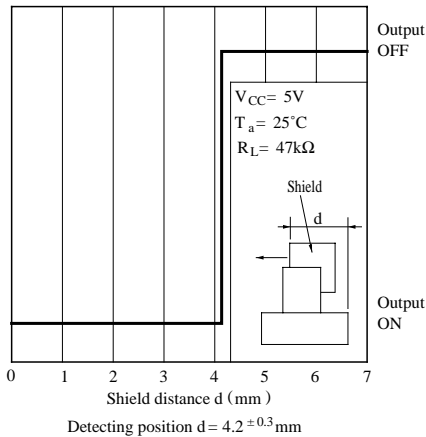
**Fig. 3 Low Level Output Voltage vs. Ambient Temperature**



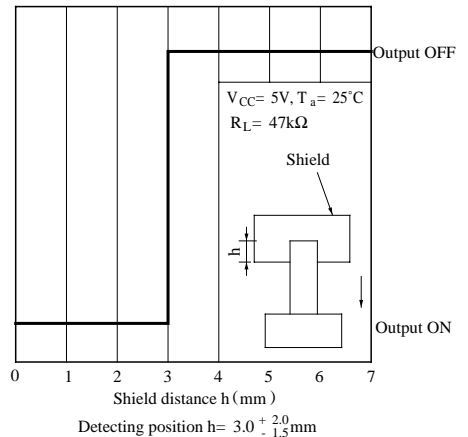
**Fig. 4 Supply Current vs. Supply Voltage**



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



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



**Recommended Connentors on the Inserted Side**

- JAPAN AMP made Ultrex connector (Solderless type)

Housing Model No.	172677-3			
Special terminal Model No.	AWG size	Product shape	Material	Model No.
	30 to 26	Chain	Copper phosphide	171609-1
		Bulk		171611-1
	26 to 22	Chain		171610-1
		Bulk		171612-1

- JAPAN AMP made Ultrex connector (mass termination type)

172685-3

**Recommended Mounting Holes**

Same as **GP1S09**

**■ 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 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  $0.01\mu\text{F}$  between Vcc and GND near the device.
  - (4) As for other general cautions, refer to the chapter "Precautions for Use".
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