GP1A073LCS/ GP1A073HCS

Compact OPIC Photointerrupter with Connector

■ Features

1. Compact type
2. Low operating voltage (V_{CC}=2.7 to 5.5V)
3. Snap-in mounting type
4. 3 kinds of mounting plate thickness
   (Applicable plate thickness : 1.0, 1.2 and 1.6 mm)

■ Applications

1. Copiers
2. Laser beam printers
3. Facsimiles

■ Absolute Maximum Ratings

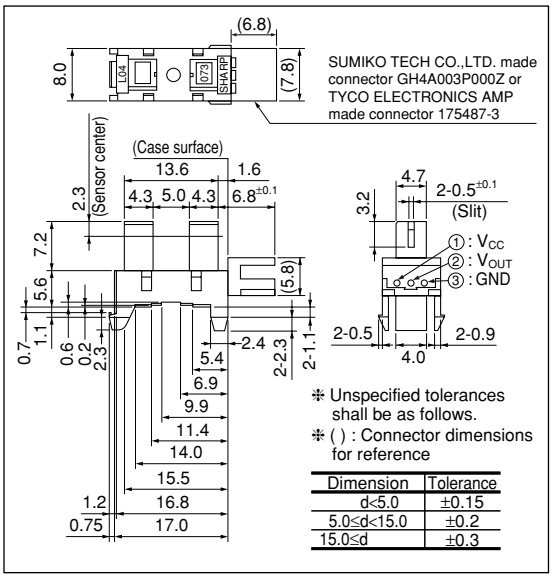
(T_a=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	−0.5 to +7	V
*1Output voltage	V_{OUT}	−0.5 to +7	V
*2Low level output current	I_{OL}	8	mA
*3Operating temperature	T_{opr}	−20 to +75	°C
*3Storage temperature	T_{stg}	−30 to +85	°C

*1 Output transistor collector-emitter voltage
*2 Output transistor collector current
*3 The connector should be plugged in/out at normal temperature

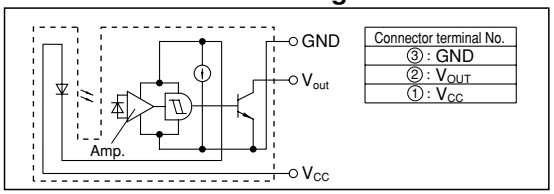
■ Outline Dimensions

(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.

■ Internal Connection Diagram



■ Electro-optical Characteristics

(V_{CC}=5V, T_a=25°C unless otherwise specified)

Parameter		Symbol	*1 Conditions	MIN.	TYP.	MAX.	Unit
Operating supply voltage		V_{CC}	–	2.7	–	5.5	V
Current consumption	**GP1A073LCS**	I_{CCL}	Light beam uninterrupted	–	–	16.5	mA
Low level output voltage		V_{OL}	Light beam uninterrupted, I_{OL}=4mA	–	–	0.35	V
Current consumption		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	MIN. interruption time	t_H	R_L=4.7kΩ	166	–	–	μs
	MIN. sensing time	t_L		166	–	–	μs

*1 **GP1A073HCS**:Light beam conditions are reverse from **GP1A073LCS**

Fig.1 Output Current vs. Ambient Temperature

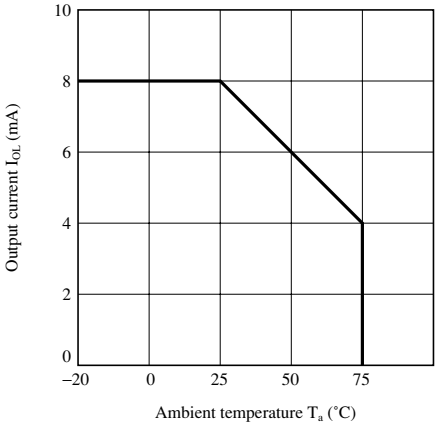


Fig.2 Detecting Position Characteristics (1)

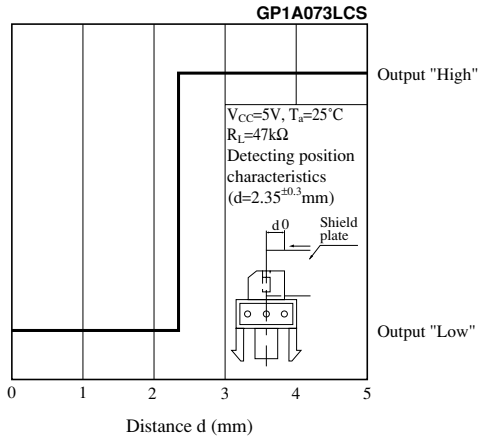
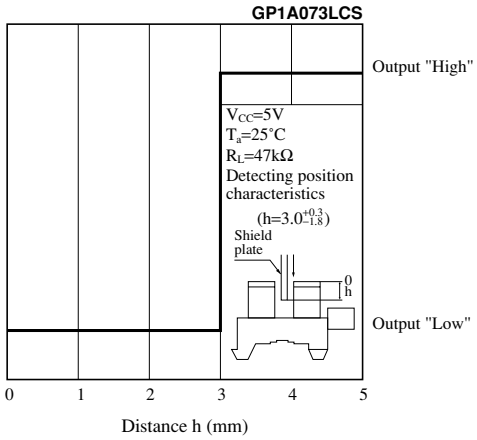


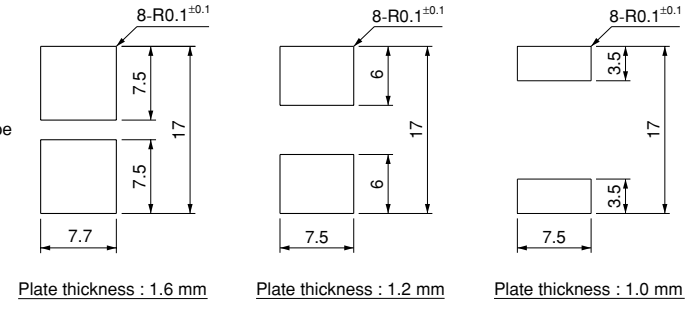
Fig.3 Detecting Position Characteristics (2)



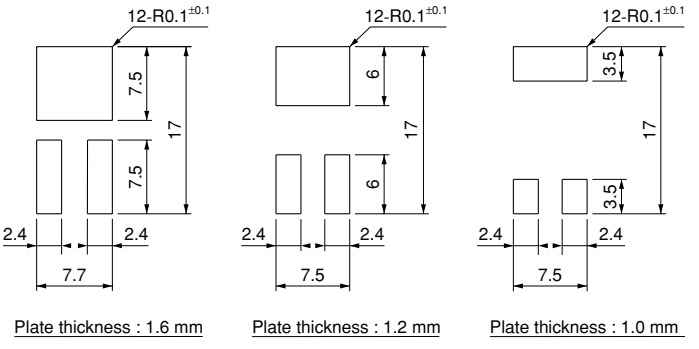
■ Recommended Mounting Hole Shape

(Unit : mm)

General mounting type



Reverse insertion preventive type



1. It is recommended to mark the shear droop surface (punch side) of the mounting plate (metal plate) with "**GP1A073LCS/HCS**".
2. Mounting workability, shaking after mounting and mounting strength depend on the corner radius of the mounting plate and state of punching. Determine the mounting dimensions after check on an actual machine.
3. General dimensional tolerances shall be ±0.1mm.

■ Precautions for Operation

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 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 contact us.
3. In order to stabilize power supply line, connect a by-pass capacitor of more than 0.01μF between V_{CC} and GND near the device.

● As for other general precautions, please refer to the chapter "Precautions for Use".

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  --- Office automation equipment
  --- Telecommunication equipment [terminal]
  --- Test and measurement equipment
  --- Industrial control
  --- Audio visual equipment
  --- Consumer electronics

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  --- Gas leakage sensor breakers
  --- Alarm equipment
  --- Various safety devices, etc.

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  --- Telecommunication equipment [trunk lines]
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