

GP1A05/GP1A22LC/ GP1A23LC/GP1A25LC

OPIC Photointerrupter with Connector

■ Features

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

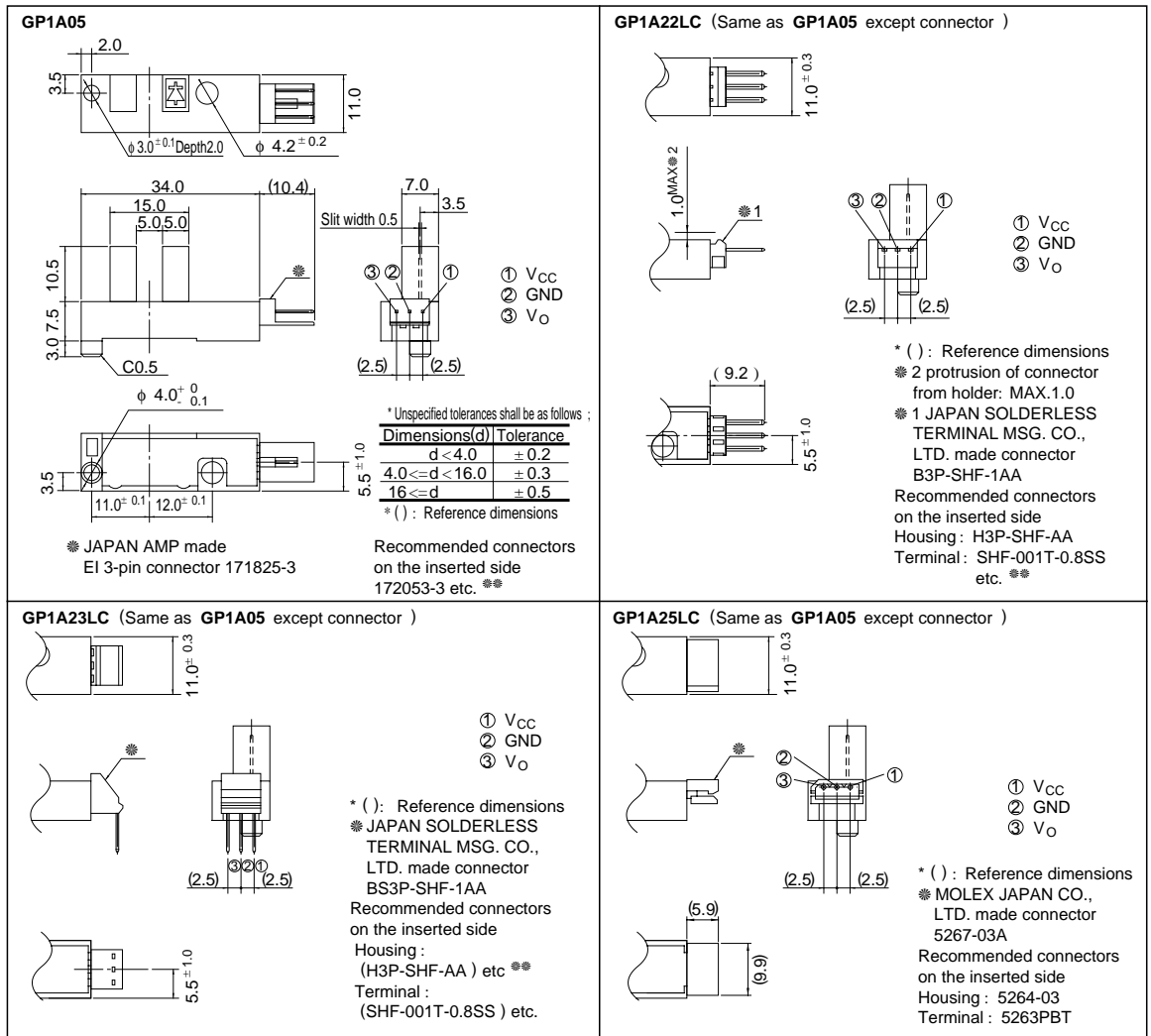
■ Applications

1. Copiers, Printers
2. Facsimiles

* "OPIC" (Optical IC) is a trademark of SHARP Corporation. An OPIC consists of a light-detecting element and signal-processing circuit integrated onto a single chip.

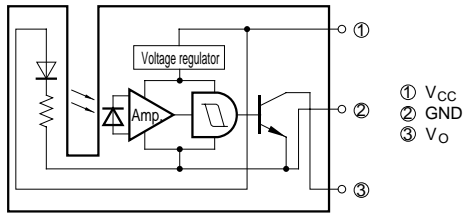
(Unit : mm)

■ Outline Dimensions



** Recommended connectors on the inserted side are show on the following 3rd page.

Internal connection diagram (Common to 4 models)



Absolute Maximum Ratings

(Ta = 25°C)

Parameter		Symbol	Rating	Unit
Supply voltage	GP1A05	V _{CC}	- 0.5 to + 10	V
	GP1A22LC/GP1A23LC/GP1A25LC		- 0.5 to + 8	
*1 Output voltage		V _O	- 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	GP1A05/GP1A22LC/GP1A23LC	T _{stg}	- 40 to + 85	°C
	GP1A25LC		- 30 to + 85	

*1 Collector-emitter voltage of output transistor

*2 Collector current of output transistor

*3 The connector should be plugged in/out 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	-	-	30	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	-	-	30	mA
High level output voltage	V _{OH}	Light beam interrupted, R _L = 47k Ω	V _{CC} × 0.9	-	-	V
*5 Response frequency	f	*4 R _L = 47k Ω	-	-	3 000	Hz

*4 No DC output is allowed.

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

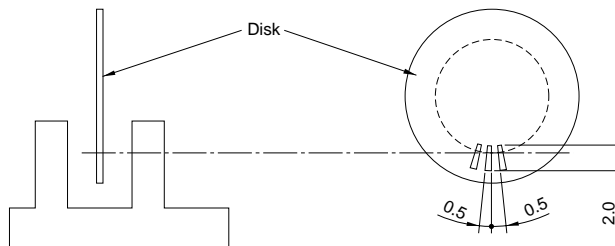


Fig. 1 Low Level Output Current vs. Ambient Temperature

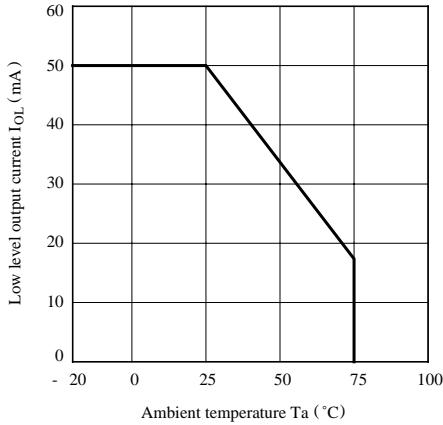


Fig. 2 Low Level Output Voltage vs. Low Level Output Current

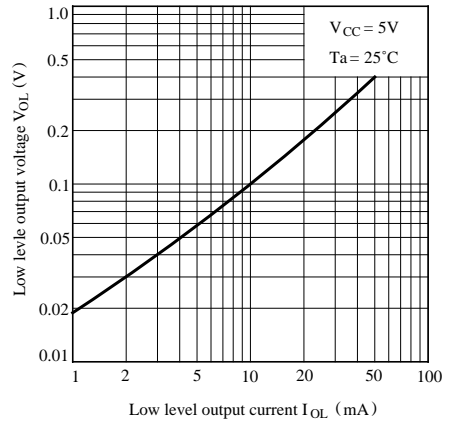


Fig. 3 Low Level Output Voltage vs. Ambient Temperature

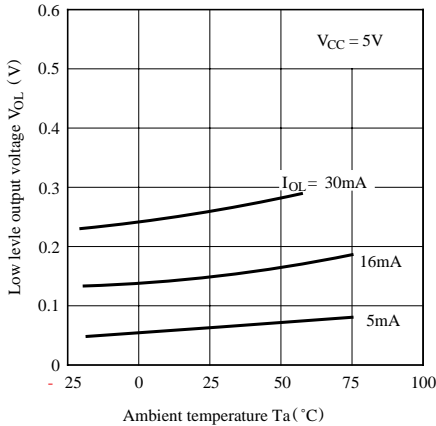


Fig. 4 Supply Current vs. supply Voltage

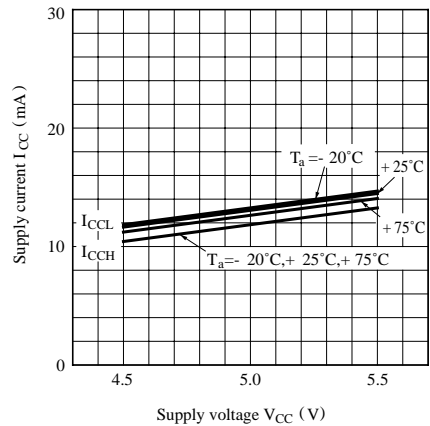


Fig. 5 Detecting Position Characteristics (1)

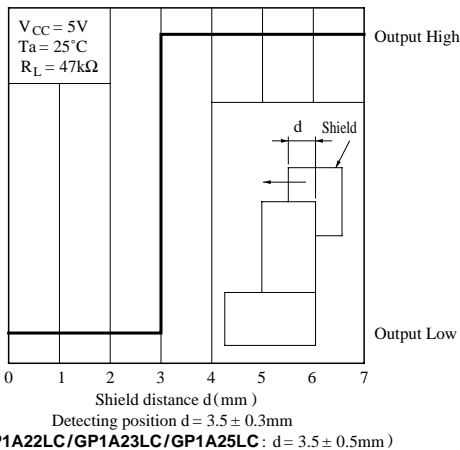
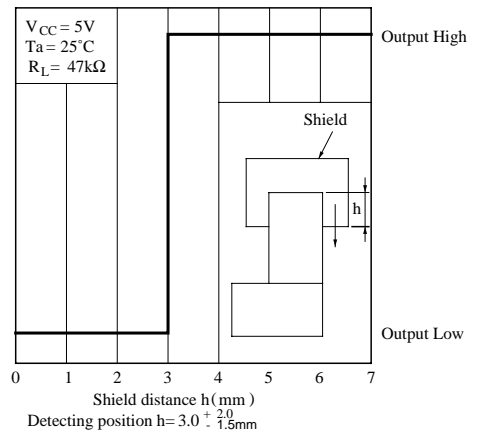


Fig. 6 Detecting Position Characteristics (2)



■ Recommended Connectors on the Inserted Side

Recommended connectors on the inserted side for **GP1A05**, **GP1A22LC**, and **GP1A23LC** are shown below.

<<GP1A05>>

● JAPAN AMP made EI series connectors (standard type)

Housing color	Natural color	Black	Blue	Green	Red
Housing Model No.	171822-3	2-171822-3	4-171822-3	6-171822-3	8-171822-3
Special terminal Model. No.	AWG size	Product shape	Material	Model No.	
				Bulk	Brass
	Copper phosphide	170204-2			
	Brass	170262-1			
	Chain	Copper phosphide	170262-2		
		Bulk	Brass	170205-1	
			Copper phosphide	170205-2	
	AWG 30 to 26	Bulk	Brass	170263-1	
			Copper phosphide	170263-2	
		Chain	Copper phosphide	170263-2	

● JAPAN AMP made EI series connectors (low profile type)

Housing color	Natural color	Black	Blue	Green	Red
Housing Model No.	172142-3	2-172142-3	4-172142-3	6-172142-3	8-172142-3
Special terminal Model. No. (Material: Copper phosphide)	AWG size	Product shape	Model No.		
			Bulk	170369-1	
	Chain	170354-1			
	AWG 26 to 22	Bulk	170370-1		
			Chain	170355-1	
	AWG 30 to 26	Bulk	170370-1		
Chain			170355-1		

● JAPAN AMP made EI series connectors (amp mass termination)

Housing-terminal united type connector	AWG28 (Green)	AWG26 (Natural color)	AWG24 (Black)	AWG22 (Red)
	172054-3	172053-3	172052-3	172051-3

* Terminal Material : Copper phosphide

<<GP1A22LC/ GP1A23LC>>

● JAPAN SOLDERLESS TERMINAL MSG. CO., LTD. made (Natural color •bulk)

Housing Model No.	H3P-SHF-AA			S3P-SHF-1		
	AWG size	Material	Model No.	AWG size	Material	Model No.
Special terminal Model. No.	AWG 26 to 22	Brass	SHF-001T-0.8SS	AWG 27 to 22	Brass	SHF-001T-0.8P
		Copper phosphide	SHF-001T-0.8BS		Copper phosphide	-
	AWG 30 to 26	Brass	SHF-002T-0.8SS	AWG 30 to 28	Brass	SHF-002T-0.8P
		Copper phosphide	SHF-001T-0.8BS		Copper phosphide	-

■ Precautions for Use

- (1) It is recommended that a by-pass capacitor of more than 0.01 μ 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 rear 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 except for specified materials are used, please consult us.

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