GP1A38L5/GP1A38L7 Multi-channel OPIC Photointerrupter with Connector

■ Features

1. Multi-channel type
   GP1A38L5 (5-channel type)
   GP1 A38L7 (7-channel type)
2. Built-in Schmidt trigger circuit
3. LSTTL and TTL compatible output
4. Can be mounted with screws

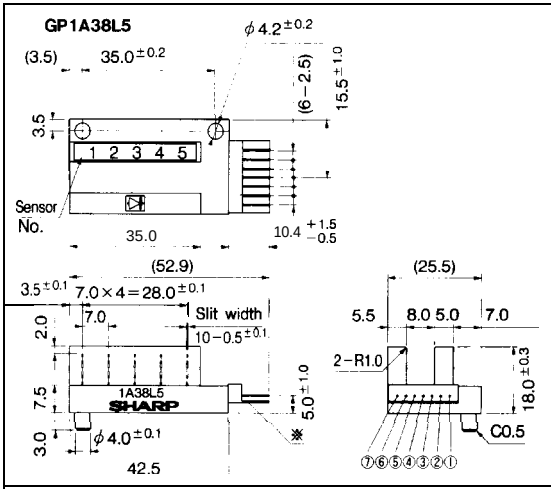
■ Applications

1. Laser beam printers
2. Copiers

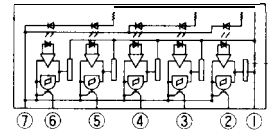
*"OPIC" (Optical IC) is a trademark of the SHARP Corporation An OPIC consists of a light-detecting element and signal-processing circuit integrated onto a single chip.

■ Outline Dimensions

(Unit : mm)



Internal connection diagram

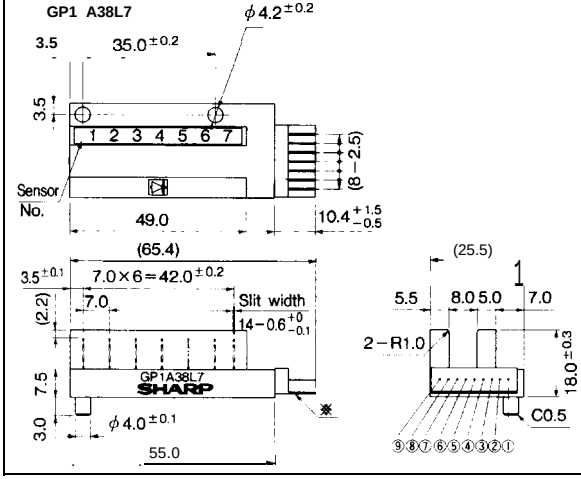


① V_{CC} ⑤ V_{O2}
② V_{O5} ⑥ V_{O1}
③ V_{O4} ⑦ GND
④ V_{O3}

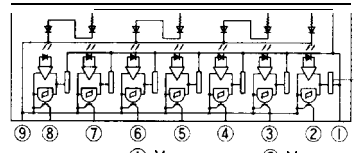
*Unspecified tolerances shall be as follows ;

Dimensions (d)	Tolerance
d≦4.0	±0.2
4.0<d≦16.0	±0.3
16.0<d≦60.0	±0.5

*( ) : Reference dimensions
*JAPAN AMP made EI connector 171825-7



Internal connection diagram



① V_{CC} ⑥ V_{O3}
② V_{O7} ⑦ V_{O2}
③ V_{O6} ⑧ V_{O1}
④ V_{O5} ⑨ GND
⑤ V_{O4}

*Unspecified tolerances shall be as follows ;

Dimensions (d)	Tolerance
d<4.0	±0.2
4.0≦d<16.0	±0.3
16.0≦d	±0.5

*( ) : Reference dimensions
※ JAPAN AMP made EI connector 17182S9

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

Parameter	Symbol	Rating	Unit
Supply voltage	Vcc	–0.5 to +7	v
Output voltage	Vo	28	v
Output current	IOL	50	mA
*1 Operat ing temperature	T_{opr}	–20 to +75	"c
*1 Storage temperature	T_{stg}	–40 to +85	℃

*1 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		Vcc		4.5		5.5	v
Low level supply current	GP1A38L5	ICCL	Light beam uninterrupted		–	80	mA
	GP1A38L7			–	–	110	mA
Low level output voltage		VOL	Light beam uninterrupted, IOL=16mA	-	–	0.35	v
High level supply current	GP1A38L5	ICCH	Light beam interrupted	–	–	80	mA
	GP1A38L7				–	110	mA
High level output voltage		VOH	Light beam interrupted, *2 RL=47kΩ	Vcc×0.9	–	–	v
Response frequency		f	RL=47kΩ	–		3000	Hz

*2 Connects between Vcc and output terminal.

Fig. 1 Low Level Output Current vs. Ambient Temperature

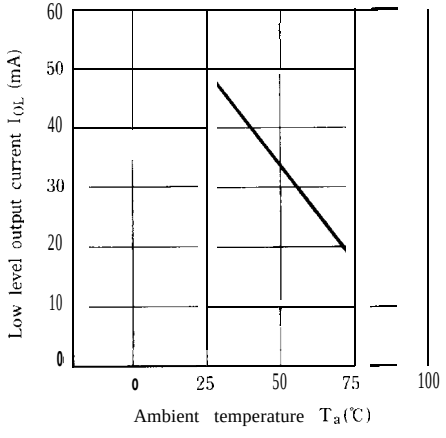


Fig. 2 Low Level Output Voltage vs. Low Level Output Current

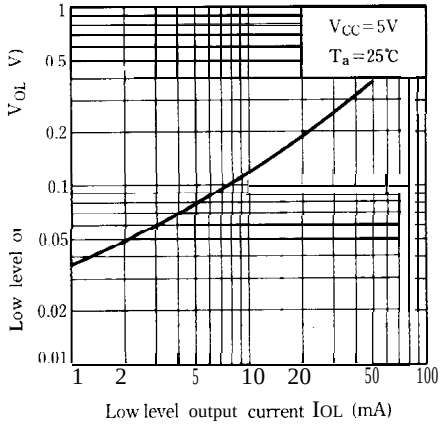


Fig. 3 Low Level Output Voltage vs. Ambient Temperature

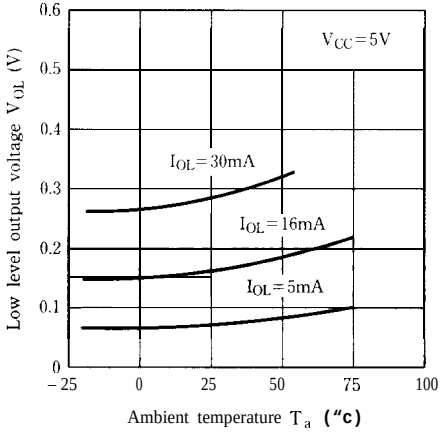


Fig.4-a Supply Current vs. Supply Voltage (GP1A38L5)

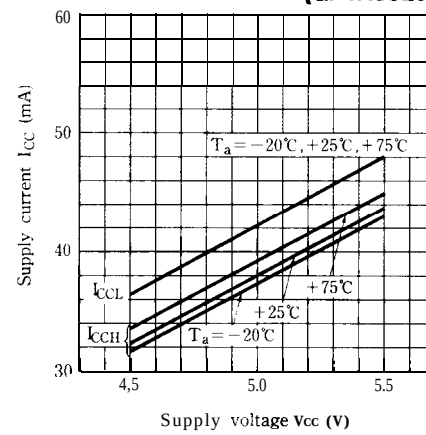


Fig.4-b Supply Current vs. Supply Voltage (GP1A38L7)

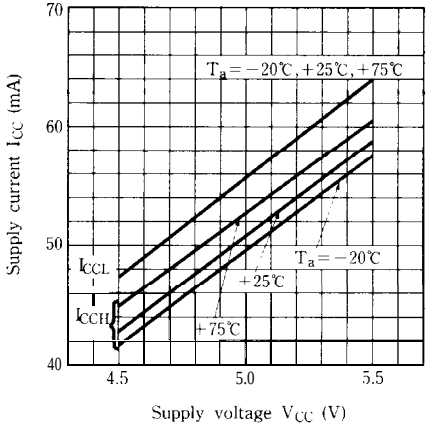


Fig.5-a Detecting Position Characteristics (1) (GP1A38L5)

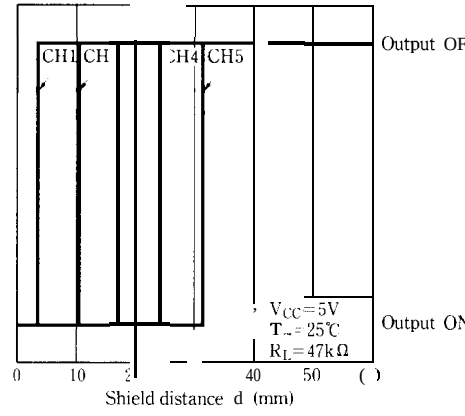
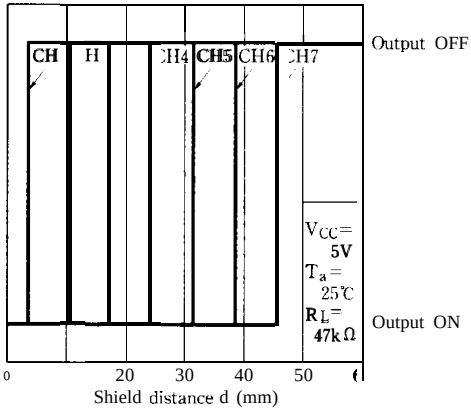
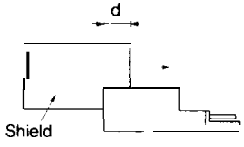


Fig.5-b Detecting Position Characteristics (1) (GP1A38L7)



Measuring Method for Detecting Position Characteristics (1)



GP1 A38L5

CH	Detecting distance d
1	3.5±0.5mm
2	10.5±0.5mm
3	17.5±0.5mm
4	24.5±0.5mm
5	31.5±0.5mm

GP1A38L7

CH	Detecting distance d
1	3.5±0.5mm
2	10.5±0.5mm
3	17.5±0.5mm
4	24.5±0.5mm
5	31.5±0.5mm
6	38.5±0.5mm
7	45.5±0.5mm

Fig.6-a Detecting Position Characteristics (2) (GP1A38L5)

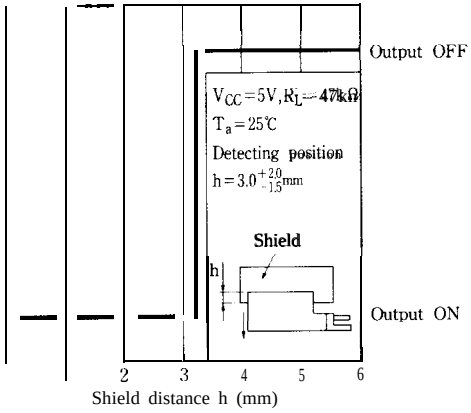
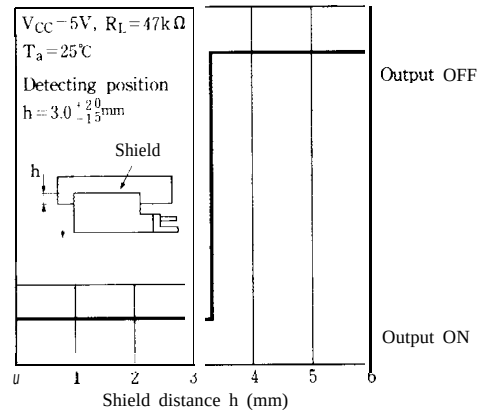


Fig.6-b Detecting Position Characteristics (2) (GP1A38L7)



■ Precautions for Use

(1) In this product, the PWB is fixed with a resin cover, 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 μF between Vcc and GND near the device.

(4) As for other general cautions, refer to the chapter “Precautions for Use” . (Page 78 to 93)