



## Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V <sub>CC</sub>	- 0.5 to + 7	V
Output voltage	V <sub>O</sub>	28	V
Output current	I <sub>OL</sub>	50	mA
*1 Operating temperature	T <sub>opr</sub>	- 20 to + 75	°C
*1 Storage temperature	T <sub>stg</sub>	- 40 to + 85	°C

\*1 The connector should be plugged in/out at normal temperature.

## Electro-optical Characteristics

(Unless otherwise specified V<sub>CC</sub> = 5V, Ta = 25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Operating supply voltage	V <sub>CC</sub>		4.5	-	5.5	V
Low level supply current	GP1A38L5	I <sub>CCL</sub> Light beam uninterrupted	-	-	80	mA
	GP1A38L7		-	-	110	mA
Low level output voltage	V <sub>OL</sub>	Light beam uninterrupted, I <sub>OL</sub> = 16mA	-	-	0.35	V
High level supply current	GP1A38L5	I <sub>CCH</sub> Light beam interrupted	-	-	80	mA
	GP1A38L7		-	-	110	mA
High level output voltage	V <sub>OH</sub>	Light beam interrupted, *2R <sub>L</sub> = 47kΩ	V <sub>CC</sub> × 0.9	-	-	V
Response frequency	f	R <sub>L</sub> = 47kΩ	-	-	3 000	Hz

\*2 Connects between V<sub>CC</sub> and output terminal.

Fig. 1 Low Level Output Current vs. Ambient Temperature

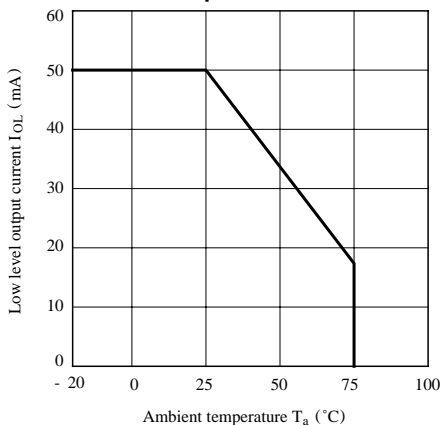
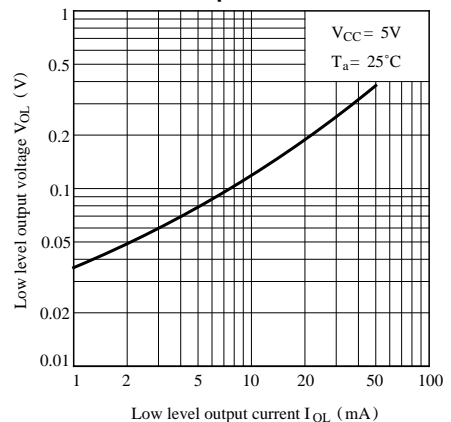
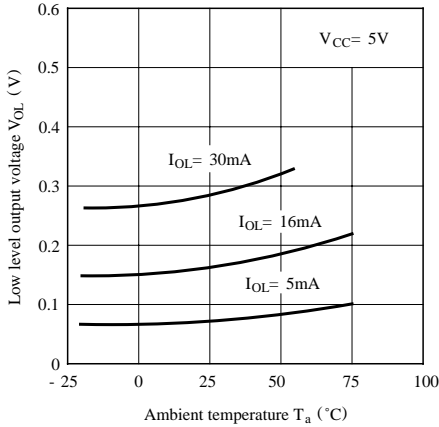


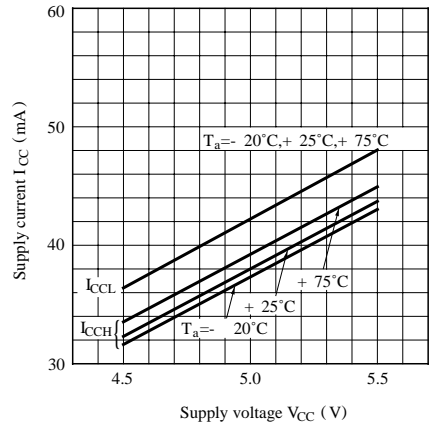
Fig. 2 Low Level Output Voltage vs. Low Level Output Current



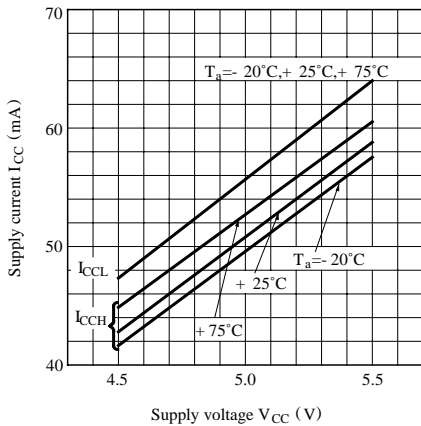
**Fig. 3 Low Level Output Voltage vs. Ambient Temperature**



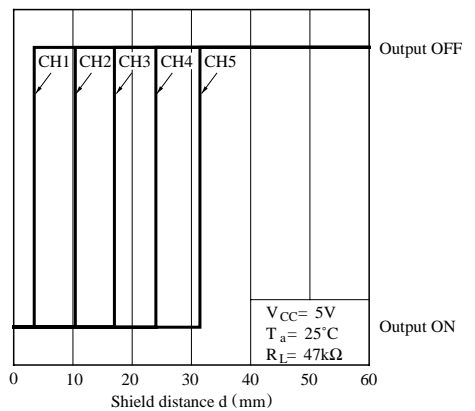
**Fig.4-a Supply Current vs. Supply Voltage (GP1A38L5)**



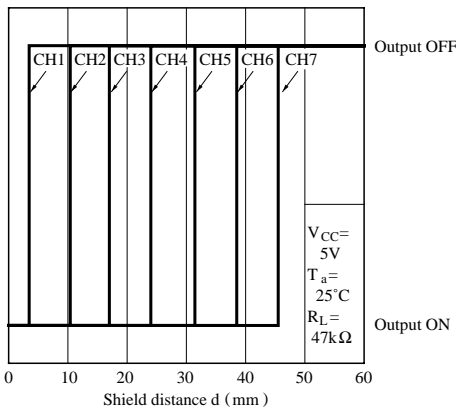
**Fig.4-b Supply Current vs. Supply Voltage (GP1A38L7)**



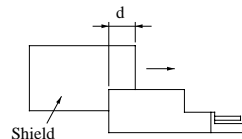
**Fig.5-a Detecting Position Characteristics (1) (GP1A38L5)**



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



**Measuring Method for Detecting Position Characteristics (1)**



**GP1A38L5**

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

**GP1A38L7**

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

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

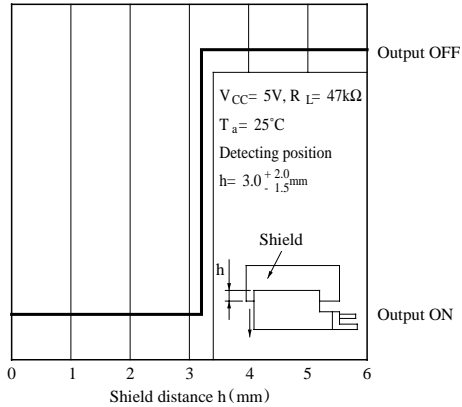
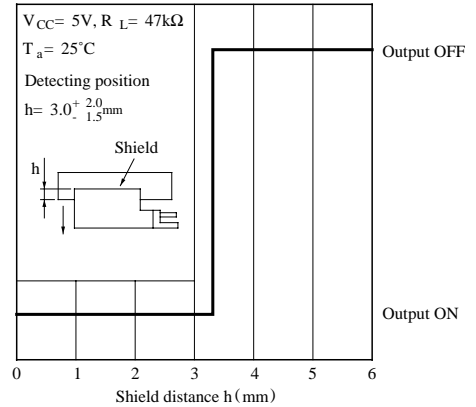


Fig.6-b Detecting Position Characteristics (2)  
(GP1A38L7)



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



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