



## Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V <sub>CC</sub>	- 0.5 to + 30	V
*1 Output voltage	V <sub>O</sub>	- 0.5 to + 40	V
*2 Low level output current	I <sub>OL</sub>	50	mA
*3 Operating temperature	GP1A10	T <sub>opr</sub>	0 to + 80
	GP1A26LC		- 20 to + 80
*3 Storage temperature	T <sub>stg</sub>	- 20 to + 95	°C
Operating humidity	R <sub>H</sub>	10 to 95	%

\*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<sub>CC</sub> = 24V, Ta = 25°C)

Parameter	Symbol	conditions	MIN.	TYP.	MAX.	Unit	
Operating supply voltage	V <sub>CC</sub>	-	21	-	26	V	
Low level supply current	I <sub>CCL</sub>	Light beam uninterrupted	-	-	30	mA	
Low level output voltage	V <sub>OL</sub>	Light beam uninterrupted, I <sub>OL</sub> = 16mA	-	-	0.6	V	
High level supply current	I <sub>CCH</sub>	Light beam interrupted	-	-	30	mA	
High level output voltage	V <sub>OH</sub>	Light beam interrupted, R <sub>L</sub> = 10kΩ, V <sub>CC</sub> = 26V	25.8	-	-	V	
Response characteristics	Minimum interruption time	t <sub>H</sub>	Ta = 0 to 80°C, R <sub>L</sub> = 4.7kΩ V <sub>CC</sub> = 24V ± 5%	-	-	-	μs
	Minimum sensing time			t <sub>L</sub>	166	-	-

Fig. 1 Low Level Output Current vs. Ambient Temperature

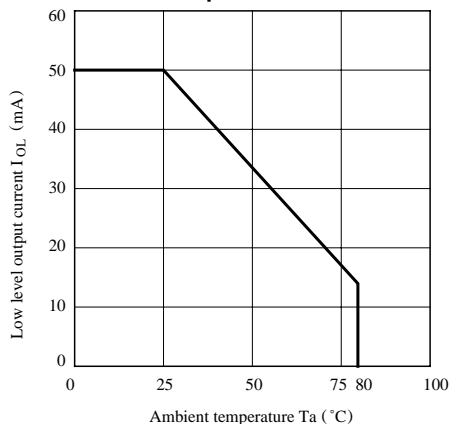
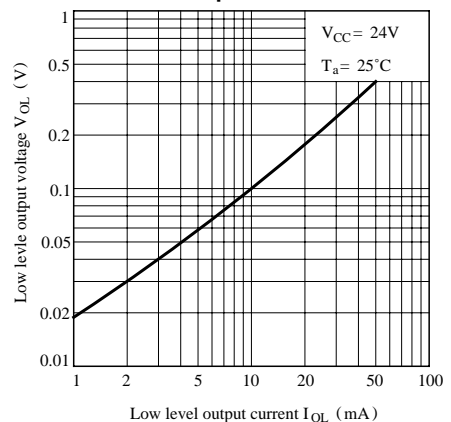
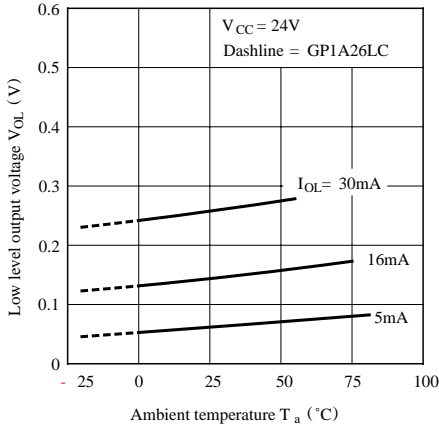


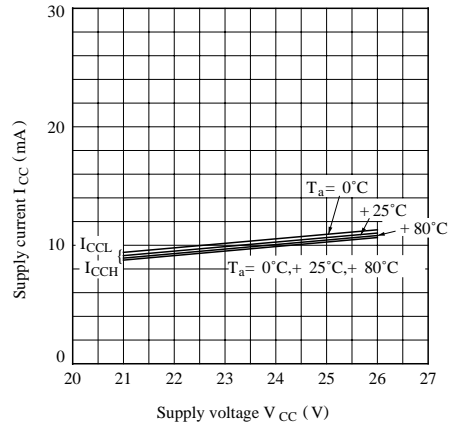
Fig. 2 Low Level Output Voltage vs. Low Level Output Current



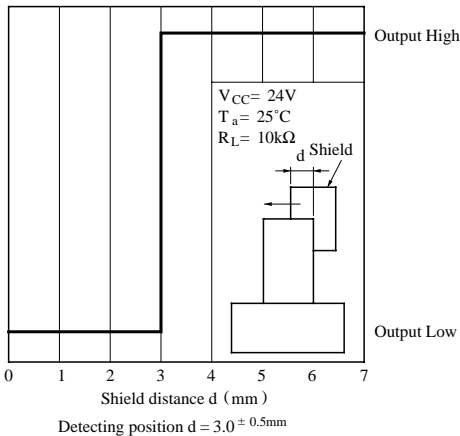
**Fig. 3 Low Level Output Voltage vs. Ambient Temperature**



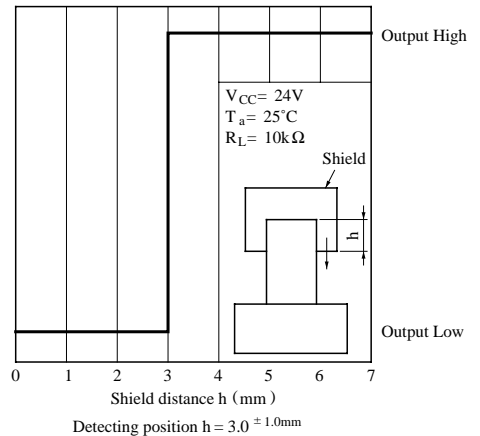
**Fig. 4 Supply Current vs. Supply Voltage**



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



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



## ■ Recommended Connectors on the Inserted Side

### ● 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.	
	AWG 26 to 20	Bulk	Brass	170204-1	
			Copper phosphide	170204-2	
			Brass	170262-1	
		Chain	Copper phosphide	170262-2	
			Brass	170205-1	
			Copper phosphide	170205-2	
	AWG 30 to 26	Bulk	Brass	170263-1	
			Copper phosphide	170263-2	
		Chain	Brass	170263-1	
			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.		
	26 to 22	Bulk	170369-1		
		Chain	170354-1		
	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

## ■ Precautions for Use

- (1) It is recommended that a by-pass capacitor of more than  $0.01\mu\text{F}$  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, Freon TE, Freon TF, Diflon solvent S3-E  
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”.



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