GP2A12F Long Focal Distance, Open Collector Output, Reflective Type OPIC Photointerrupter

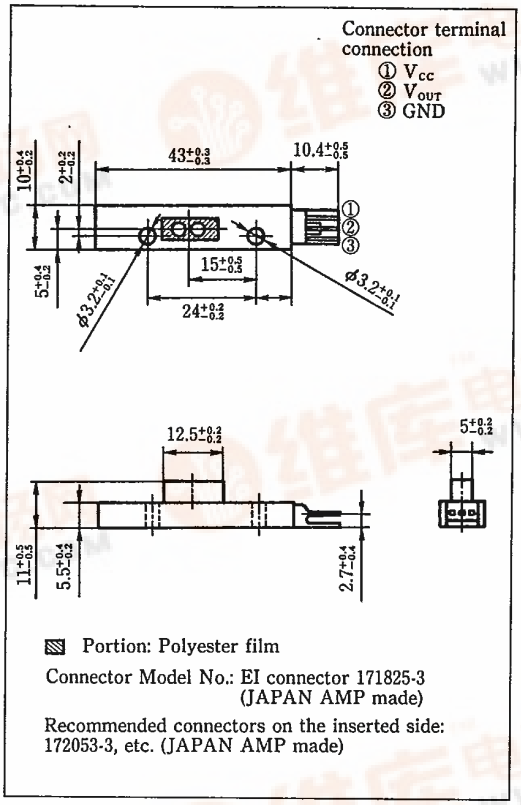
■ Features

1. Dust-proof type
2. Visible light cut-off type
3. Long focal distance type (Detecting range: 4~5mm)
4. Capable of paper detection on platen (Thermal paper for printers, plain paper for copiers, etc.)
5. Provided with a 3-pin connector for easier interface with control circuit

■ Applications

1. Paper detection for printers, copiers, facsimiles, etc.

■ Outline Dimensions (Unit : mm)



Connector Model No.: EI connector 171825-3 (JAPAN AMP made)

Recommended connectors on the inserted side: 172053-3, etc. (JAPAN AMP made)

※ OPIC is a registered trademark of Sharp and stands for Optical IC. It has a light detecting element and signal processing circuitry integrated onto a single chip.

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■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	7	V
*1Output voltage	V_O	30	V
*2Low level output current	I_{OL}	6	mA
*3Operating temperature	T_{opr}	−10~+70	°C
*3Storage temperature	T_{stg}	−40~+80	°C

*1 Detecting time
*2 Non-detecting time
*3 The connector should be plugged in/out at normal temperature.

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■ Electro-optical Characteristics

(Ta=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Supply voltage	V_{CC}	Ta=−10~+70°	4.5	5.0	5.5	V
Dissipation current	I_{CC}	Detecting time V_{CC}=5V, R_L=∞	—	27	50	mA
Low level output voltage	V_{OL}	Non-detecting time V_{CC}=5V I_{OL}=3mA	—	0.2	0.4	V
High level output voltage	V_{OH}	Detecting time V_{CC}=5V R_L=10kΩ	4.7	—	—	V
Detecting characteristics	V_{OUT}	*4Detecting condition	V_{OH}			V
		*5Non-detecting condition	V_{OL}			V
*6Response time	t_r	R_L=10kΩ	—	—	2.0	ms
	t_f		—	—	2.0	ms

*4 Detecting condition: d=4.0~5.0mm (without external disturbing light) with PPC paper (white) as the reflective object in Fig. 1.

*5 Non-detecting condition: d=4.0~5.0mm (without external disturbing light) with artwork tape (black) as the reflective object in Fig. 1.

*6 Definition of response time: Shown in Fig. 2.

Fig. 1

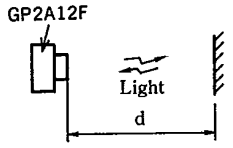
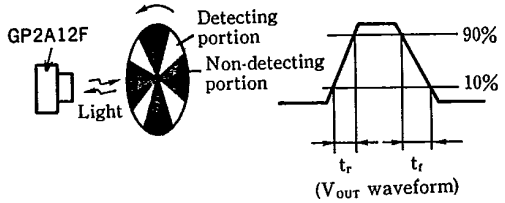


Fig. 2



(Circuit Diagram)

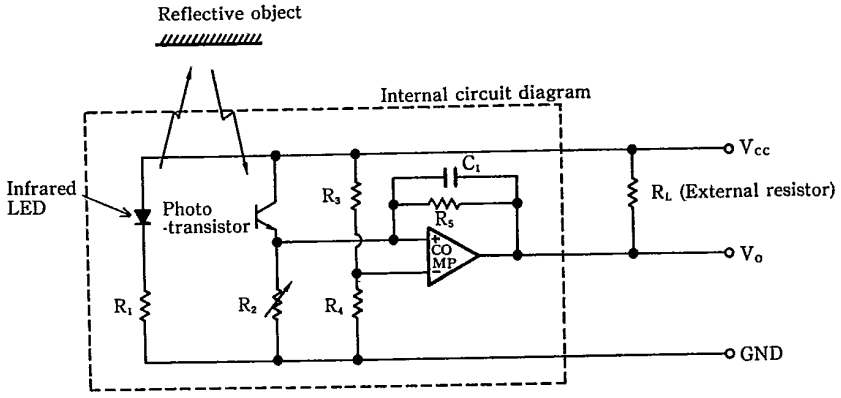


Fig. 3 Low Level Output Voltage vs. Ambient Temperature

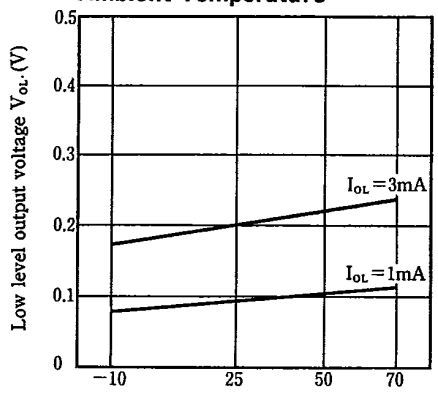


Fig. 4 Current Dissipation vs. Supply Voltage

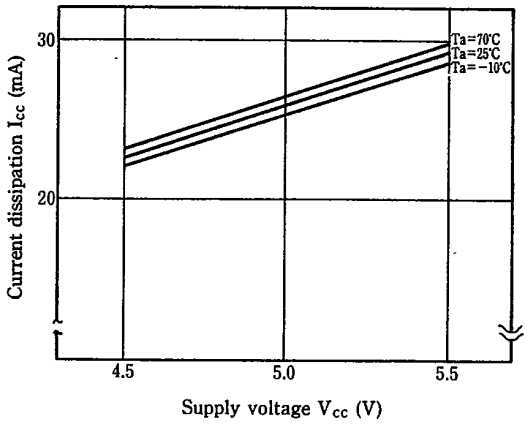
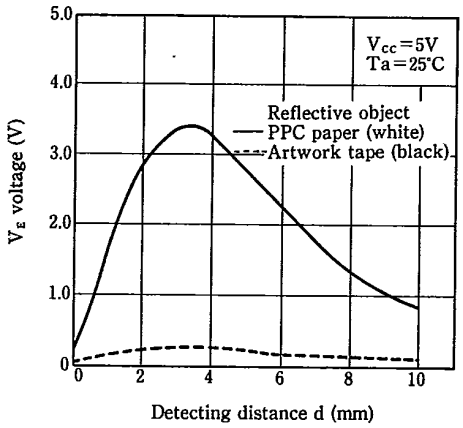
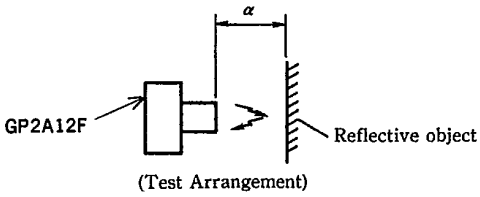
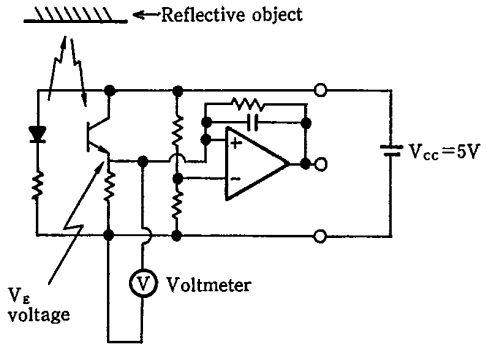


Fig. 5 Detecting Distance Characteristics





(Test Arrangement)



(Test Circuit Diagram)

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