GP2A10 Long Focal Distance, Open Collector Output, Reflective Type OPIC Photointerrupter

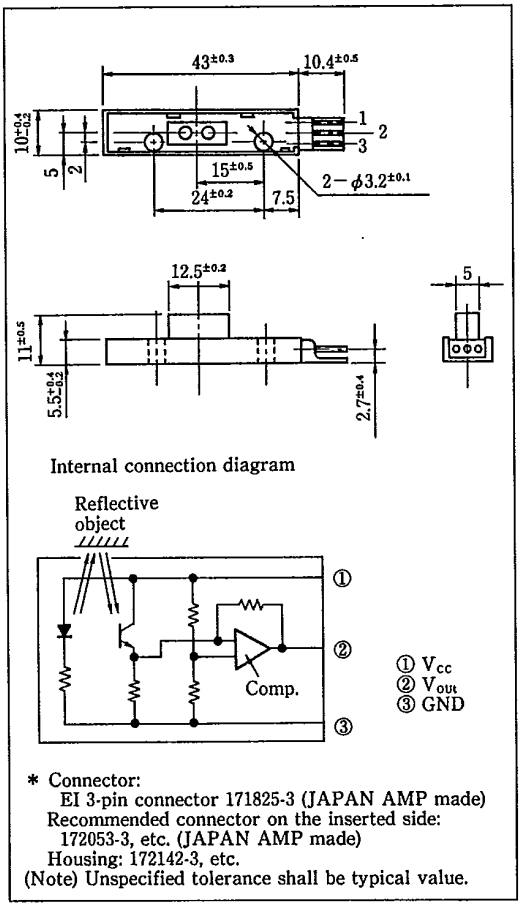
■ Features

1. Long focal distance (Detecting range: 2~7mm)
2. Capable of detecting many kinds of paper (Normal paper for copiers, secondary paper, overhead projector paper)
3. Provided with a 3-pin connector for easier interface with control circuit

■ Applications

1. Copiers
2. Printers
3. Facsimiles

■ Outline Dimensions (Unit : mm)



* Connector:
EI 3-pin connector 171825-3 (JAPAN AMP made)
Recommended connector on the inserted side:
172053-3, etc. (JAPAN AMP made)
Housing: 172142-3, etc.
(Note) Unspecified tolerance shall be typical value.

※ 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.

■ 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}	0~+65	°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.

T-41-73

■ Electro-optical Characteristics

(Ta=25°C)

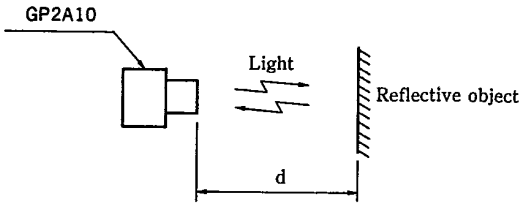
Parameter	Symbol	Conditions	Rating MIN.	Rating TYP.	Rating MAX.	Unit
Operating supply voltage	V_{CC}	Ta=0~65°C	4.5	5.0	5.5	V
Dissipation current	I_{CC}	V_{CC}=5V, R_L=∞ at detecting time	—	27	50	mA
Low level output voltage	V_{OL}	V_{CC}=5V at non-detecting time I_{OL}=3mA	—	0.2	0.4	V
High level output voltage	V_{OH}	V_{CC}=5V at detecting time R_L=10kΩ	4.7	—	—	V
Detecting characteristics	V_{OUT}	*4	V_{OL}			—
		*5	V_{OH}			—
*6Response time	t_r	R_L=10kΩ	—	—	2	ms
	t_f		—	—	2	ms

*4 Non-detecting condition: d=11mm or more (without external disturbing light) with suede (black) as the reflective object in Fig. 1

*5 Detecting condition: d=2~7mm (without external disturbing light) with artwork tape (black) as the reflective object in Fig. 2

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

Fig.1



7

Fig. 2

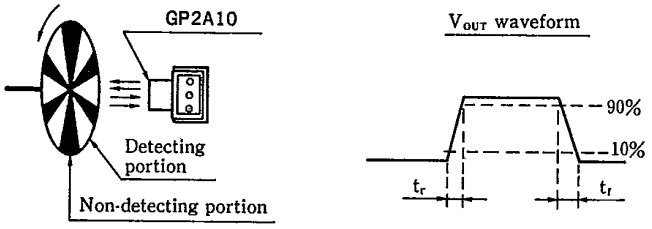


Fig. 3 Low Level Output Voltage vs. Ambient Temperature

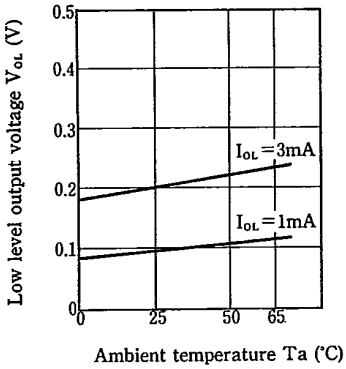


Fig. 4 Dissipation Current vs. Supply Voltage

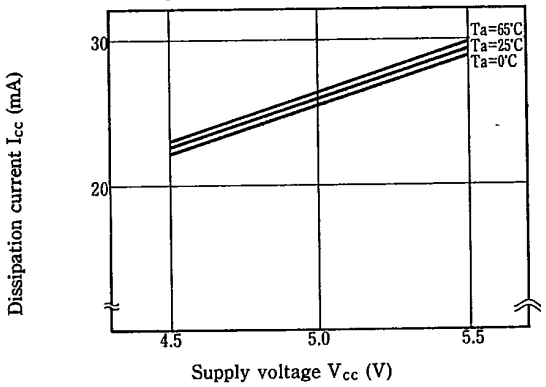
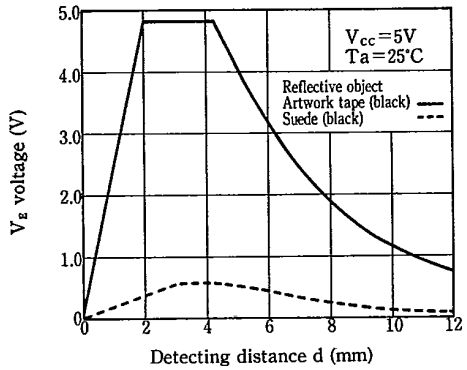
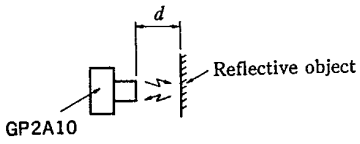
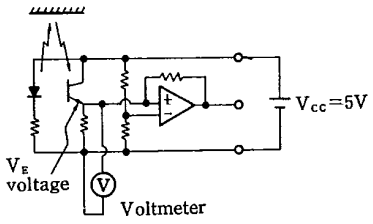


Fig. 5 Detecting Distance Characteristics





(Test Arrangement)



(Test Circuit Diagram)