

# GP2A25

## Light Modulation, Reflection Type Photointerrupter

### ■ Features

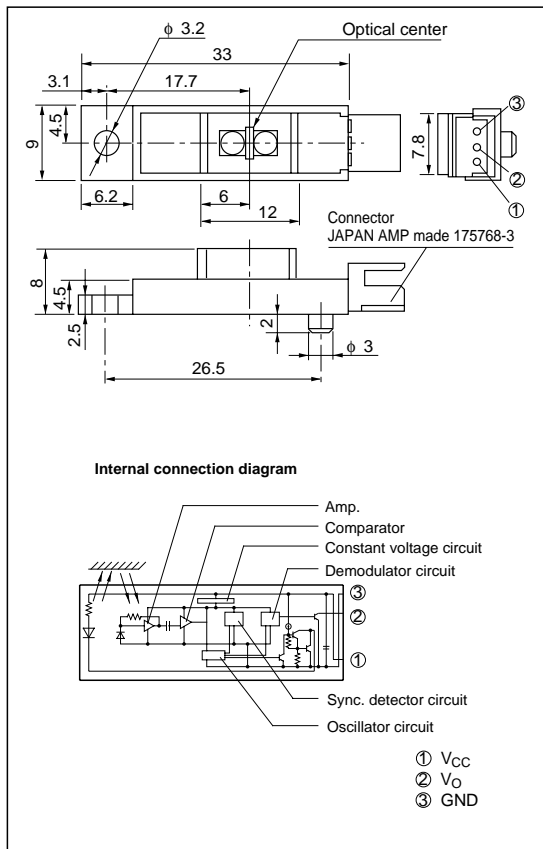
1. Light modulation system impervious to external disturbing light
2. Compact and 3-pin connector output type  
(Volume : 30% less than **GP2A20**)
3. Long focal distance type (Optimum detecting distance : 3 to 7 mm)
4. Capable of TTL direct connection

### ■ Applications

1. Copiers
2. Facsimiles
3. LBPs

### ■ Outline Dimensions

(Unit : mm)



\* "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.

### ■ Absolute Maximum Ratings

(T<sub>a</sub>=25°C)

Parameter	Symbol	Rating	Unit	Remarks
Supply voltage	V <sub>CC</sub>	- 0.5 to+ 7	V	-
Output voltage	V <sub>O</sub>	30	V	-
Output current	I <sub>OL</sub>	50	mA	Sink current *1
Operating temperature	T <sub>opr</sub>	- 10 to+ 60	°C	The connector should be plugged in/out at normal temperature.
Storage temperature	T <sub>stg</sub>	- 20 to+ 80	°C	

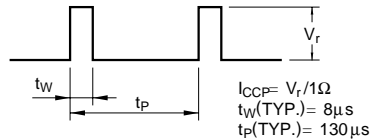
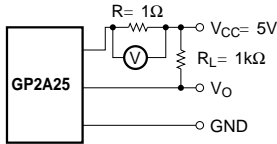
\*1 Output current vs. ambient temperature : Per Fig. 1.

**Electro-optical Characteristics**

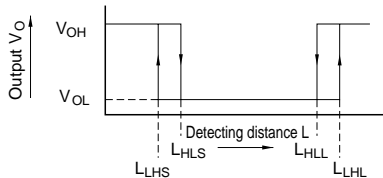
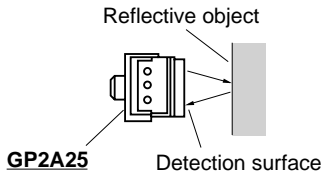
(V<sub>CC</sub>=5V, T<sub>a</sub>=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Supply voltage	V <sub>CC</sub>	-	4.75	-	5.25	V
Dissipation current (I)	I <sub>CC</sub>	V <sub>CC</sub> = 5V, R <sub>L</sub> =∞, smoothing value	-	-	30	mA
Dissipation current (II)	I <sub>CCP</sub>	*1 V <sub>CC</sub> = 5V, peak pulse value	-	-	150	mA
Low level output voltage	V <sub>OL</sub>	V <sub>CC</sub> =5V, I <sub>OL</sub> =16mA, at detecting time	-	-	0.4	V
High level output voltage	V <sub>OH</sub>	V <sub>CC</sub> =5V, R <sub>L</sub> =1kΩ, at non-detecting time	4.5	-	-	V
Non-detecting distance	L <sub>LHL</sub>	*2 Kodak 90% reflective paper, V <sub>CC</sub> =5V	-	-	27.0	mm
Detecting distance	L <sub>HLS</sub>	*2 Kodak 90% reflective paper, V <sub>CC</sub> =5V	-	-	1.0	mm
		*2 Black paper, V <sub>CC</sub> =5V	-	-	3.0	mm
	L <sub>HLL</sub>	*2 Kodak 90% reflective paper, V <sub>CC</sub> =5V	9.0	-	-	mm
		*2 Black paper, V <sub>CC</sub> =5V	7.0	-	-	mm
Response time	t <sub>PHL</sub>	*3 V <sub>CC</sub> = 5V	-	-	1.0	ms
	t <sub>PLH</sub>		-	-	1.0	ms
External disturbing light illuminance	EV1	*4	3 000	-	-	lx
	EV2		1 500	-	-	lx

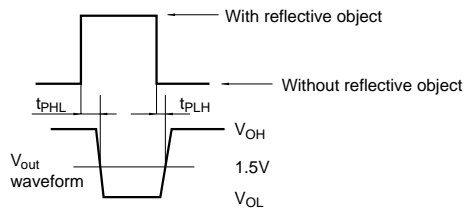
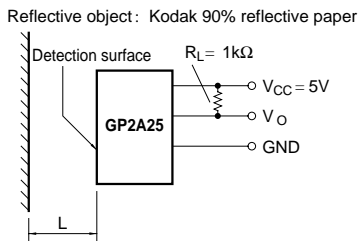
**\*1 Test Condition for Peak Pulse Value I<sub>CCP</sub>**



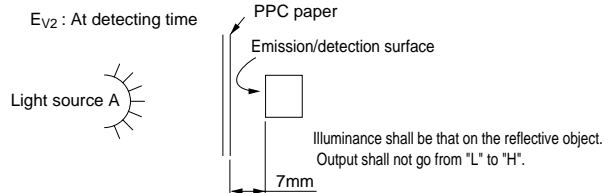
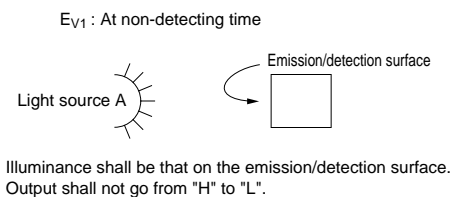
**\*2 Test Condition for Detecting Distance Characteristics**



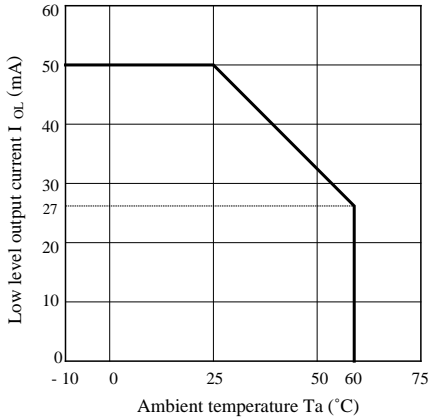
**\*3 Test Circuit for Response Time**



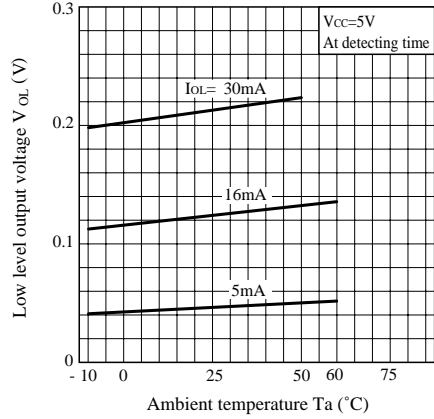
**\*4 Test Condition for External Disturbing Light Illuminance**



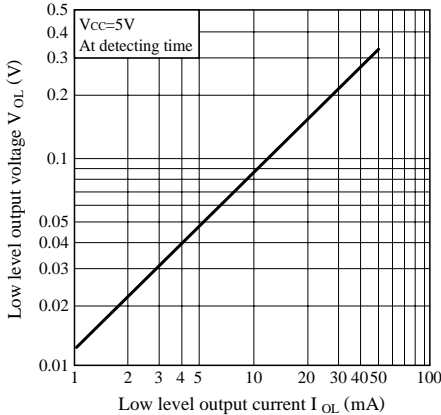
**Fig. 1 Low Level Output Current vs. Ambient Temperature**



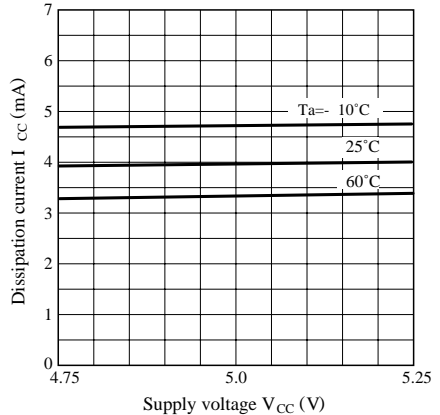
**Fig. 2 Low Level Output voltage vs. Ambient Temperature**



**Fig. 3 Low Level Output Voltage vs. Low Level Output Current**



**Fig. 4 Dissipation current (Smoothing Value) vs. Ambient Temperature**



**(Precautions for Use)**

- 1) In order to stabilize power supply line, connect a by-pass capacitor of more than  $0.33\mu\text{F}$  between  $V_{CC}$  and GND near the device.
- 2) Please do not perform dip cleaning or ultrasonic cleaning because lens part of this product is an optical device of acrylic resin.
- 3) Remove dust or stains, using an air blower or a soft cloth moistened in cleaning agent.

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 contact us.

- As for other general precautions, refer to the chapter "Precautions for Use".

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    - Traffic signals
    - Gas leakage sensor breakers
    - Alarm equipment
    - Various safety devices, etc.
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