

GP2A25B

Light Modulation, Reflection Type OPIC Photointerrupter

■ Features

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

■ Applications

1. Copiers
2. Facsimiles
3. LBP's

■ Absolute Maximum Ratings (Ta=25°C)

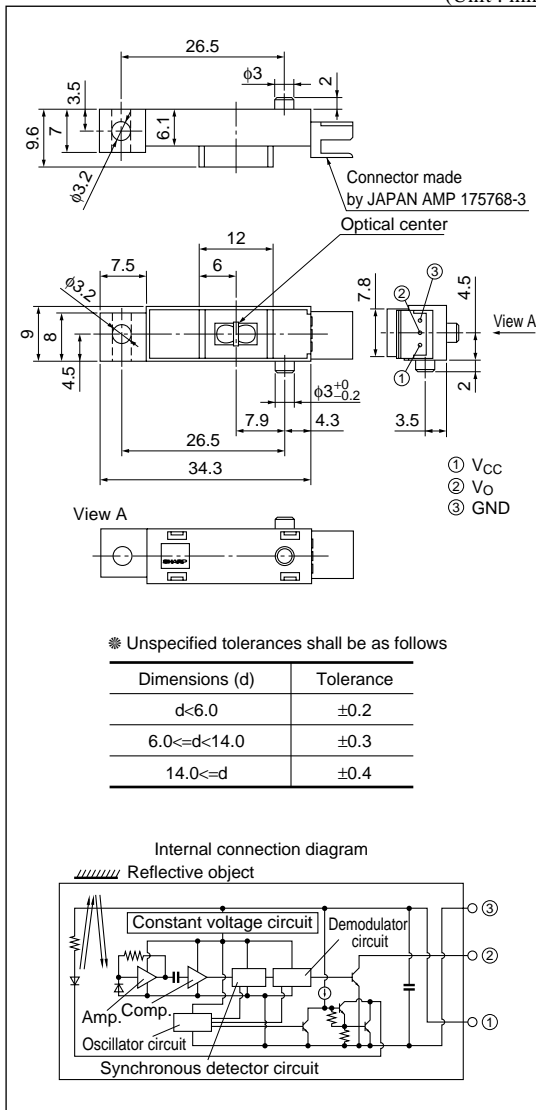
Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	-0.5 to +7	V
Output voltage	V _O	30	V
*1 Output current	I _{OL}	50	mA
*2 Operating temperature	T _{opr}	-10 to +60	°C
Storage temperature	T _{stg}	-20 to +80	°C

*1 Output current vs. ambient temperature : Refer to Fig.5.
Sink current

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

■ 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.

■ Electro-optical Characteristics

(V_{CC}=5V, T_a=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Supply voltage	V _{CC}	—	4.75	—	5.25	V
Dissipation current (I)	I _{CC}	V _{CC} =5V, R _L =∞, smoothing value	—	—	30	mA
Dissipation current (II)	I _{CCP}	^{*3} V _{CC} =5V, peak pulse value	—	—	150	mA
Low level output voltage	V _{OL}	V _{CC} =5V, I _{OL} =16mA, at detecting time	—	—	0.4	V
High level output voltage	V _{OH}	V _{CC} =5V, R _L =1kΩ, at non-detecting time	4.5	—	—	V
Non-detecting distance	L _{LHL}	^{*4} Kodak 90% reflective paper, V _{CC} =5V	—	—	27.0	mm
Detecting distance	L _{LHS}	^{*4} Kodak 90% reflective paper, V _{CC} =5V	—	—	1.0	mm
	L _{HLS}	^{*4} Black paper, V _{CC} =5V	—	—	3.0	mm
	L _{HLL}	^{*4} Kodak 90% reflective paper, V _{CC} =5V	9.0	—	—	mm
	L _{HLL}	^{*4} Black paper, V _{CC} =5V	7.0	—	—	mm
Response time	t _{PHL}	^{*5} V _{CC} =5V	—	—	1.0	ms
	t _{PLH}	^{*5} V _{CC} =5V	—	—	1.0	ms
External disturbing light illuminance	EV ₁	^{*6}	3 000	—	—	lx
	EV ₂	^{*6}	1 500	—	—	lx

^{*3} Refer to Fig.1

^{*4} Refer to Fig.2

^{*5} Refer to Fig.3

^{*6} Refer to Fig.4

Fig.1 Test Condition for Peak Pulse Value I_{CCP}

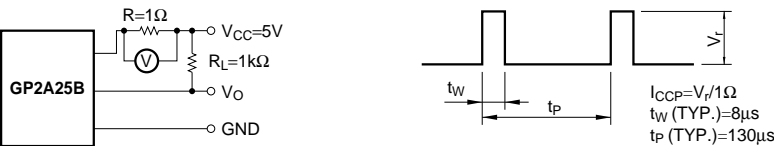


Fig.2 Test Condition for Detecting Distance Characteristics

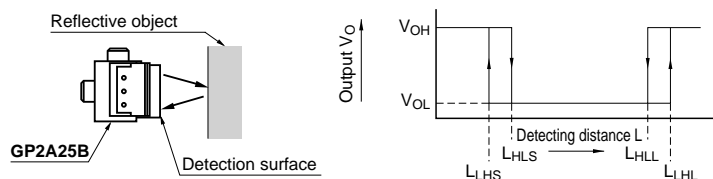


Fig.3 Test Circuit For Response Time

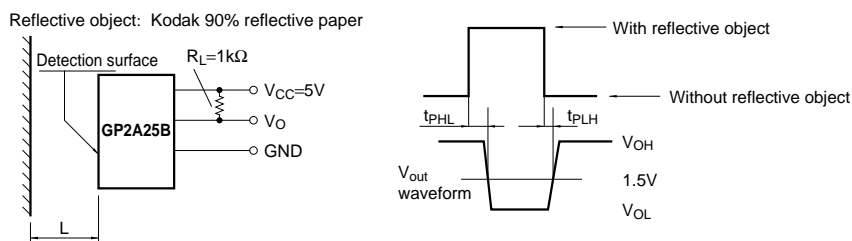


Fig.4 Test Condition for External Disturbing Light Illuminance

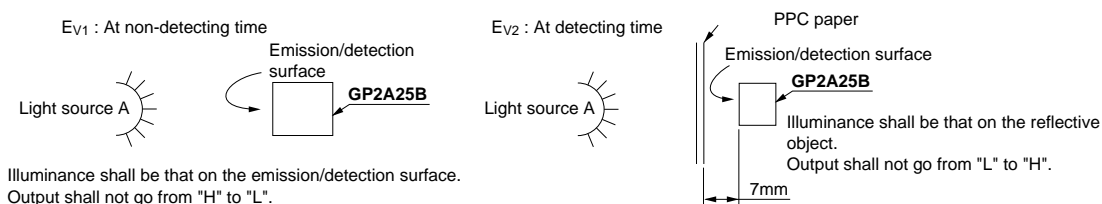


Fig.5 Low Level Output Current vs. Ambient Temperature

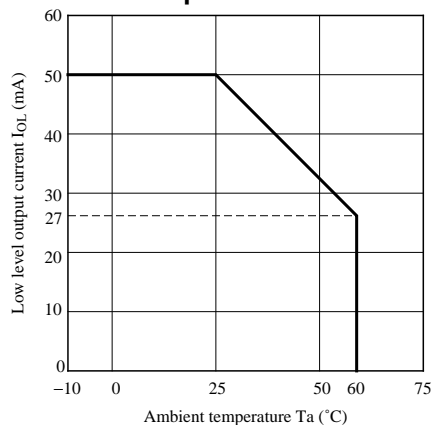


Fig.6 Low Level Output Voltage vs. Ambient Temperature

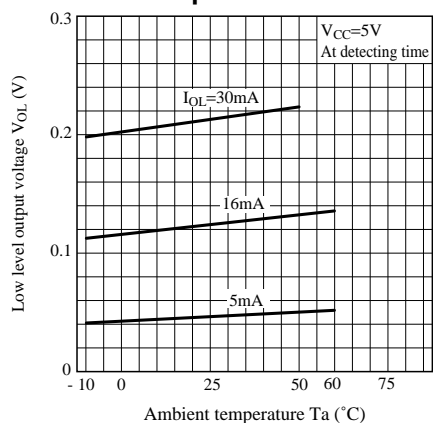


Fig.7 Low Level Output Voltage vs. Low Level Output Current

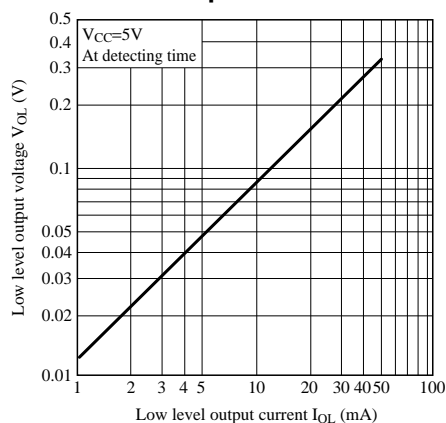
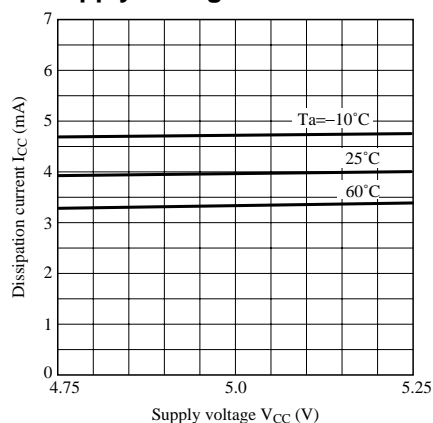


Fig.8 Dissipation Current (Smoothing Value) vs. Supply Voltage



■ 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. For cleaning
Acrylic resin is used as the material of the lens surface. As to cleaning, this refractive type photointerrupter shall not clean by cleaning materials absolutely. Dust and stain shall clean by air blow, or shall clean by soft cloth soaked in washing materials.
3. The connector should be plugged in / out at normal temperature.
4. As for other general precautions, refer to the chapter "Precautions for Use".

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