

T-41-73

GP2A11 Light Modulation, Reflective Type OPIC Photointerrupter

■ Features

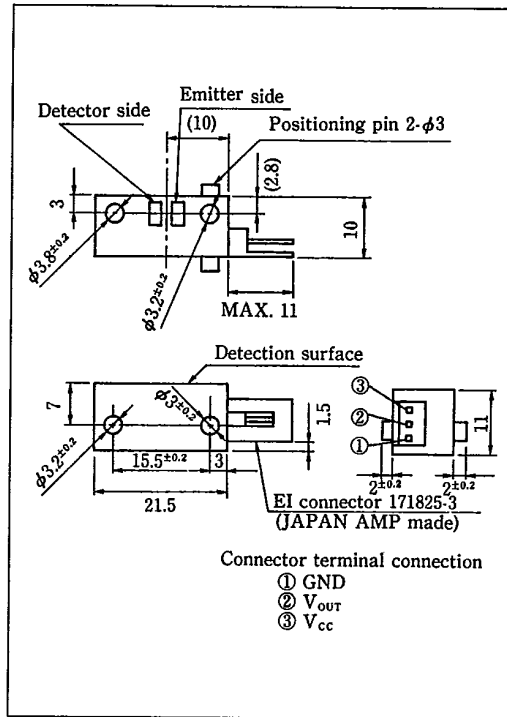
1. Light modulation type free from external disturbing light
(External disturbing light illuminance: 2,000 lx)
2. OPIC provides compactness and high performance.
3. With connector provided for easier interface with peripheral control circuit

■ Applications

1. Copiers
2. Printers
3. Automatic vending machines

■ Outline Dimensions

(Unit : mm)



* 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

(T_a = 25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	-0.5 ~ +16	V
Output voltage	V _{OUT}	16	V
Output current	I _{OL}	50	mA
Operating temperature	T _{opr}	-10 ~ +65	°C
Storage temperature	T _{stg}	-40 ~ +80	°C

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

SHARP

T-41-73

Electro-optical Characteristics

(Ta=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Supply voltage	V_{CC}		4.5	5.0	5.5	V
Current dissipation	I_{CCP}	Peak pulse value, $R_L = \infty$	—	—	100	mA
Current dissipation	I_{CC}	Smoothing value, $R_L = \infty$	—	—	20	mA
Low level output voltage	V_{OL}	$I_{OL} = 16\text{mA}$ at detecting time (Note 1)	—	0.2	0.4	V
High level output voltage	V_{OH}	$R_L = \infty$ at non-detecting time (Note 2)	4.7	—	—	V
Response time	t_{PHL}	(Note 3)	—	—	1	msec.
	t_{PLH}		—	—	1	msec.
External disturbing light illuminance	E_{V1}	(Note 4)	2000	—	—	lx
	E_{V2}	(Note 5)	2000	—	—	lx

- (Note 1) Detecting condition
 In Fig. (A) $d=2\sim 5\text{mm}$ with OMS test card (white) as the reflective object (Specified by Sharp)
- (Note 2) Non-detecting condition
 In Fig. (A) $d=11\text{mm}$ or more with suade as the reflective object (Specified by Sharp)
- (Note 3) Response time
 Fig. (B) shows test circuit for response time.
- (Note 4) E_{V1} : Reflective object surface illuminance
 Illuminance that enables the OMS test card (white) to be detected with $d=2\sim 5\text{mm}$ when the external disturbing light from direction as indicated by the arrow, \rightarrow irradiates light source A in Fig. (A)
- (Note 5) E_{V2} : Detection surface illuminance
 Illuminance that does not allow for detection when the external disturbing light from the direction as indicated by the arrow, \leftarrow irradiates light source A in Fig. (A)

Fig. (A) Test Condition and Arrangemet

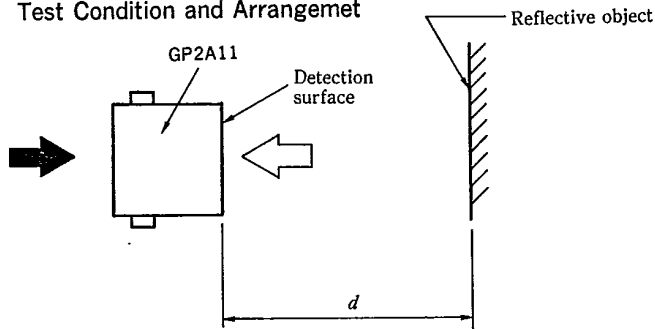
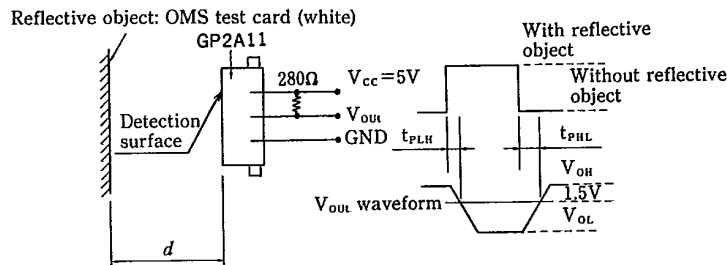


Fig. (B) Test Circuit for Response Time



T-41-73

■ Circuit Block Diagram

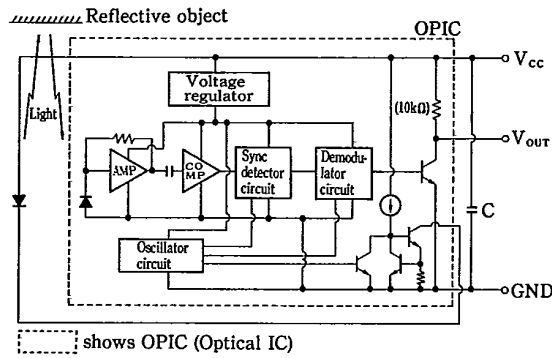


Fig. 1 Dissipation Current (Peak Pulse Value) vs. Ambient Temperature

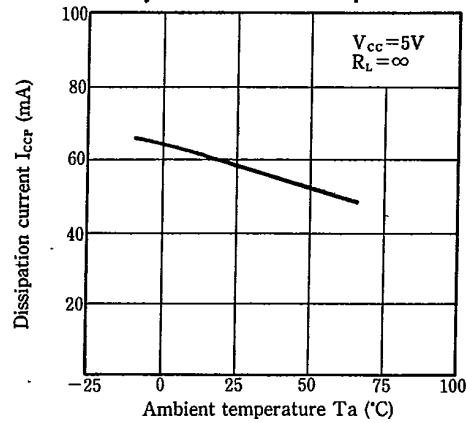


Fig. 2 Dissipation Current (Smoothing Value) vs. Ambient Temperature

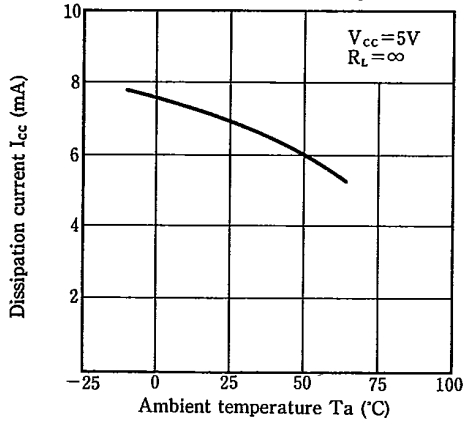


Fig. 3 Low Level Output Current vs. Ambient Temperature

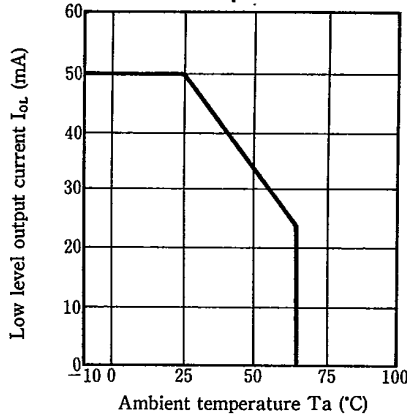


Fig. 4 Low Level Output Voltage vs. Ambient Temperature

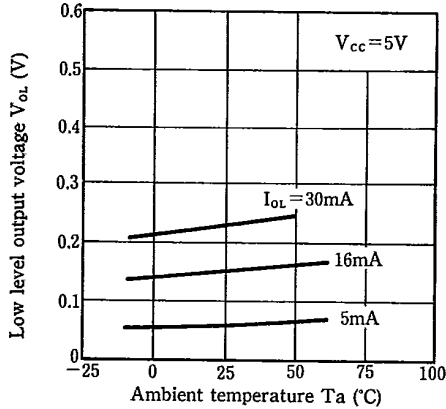
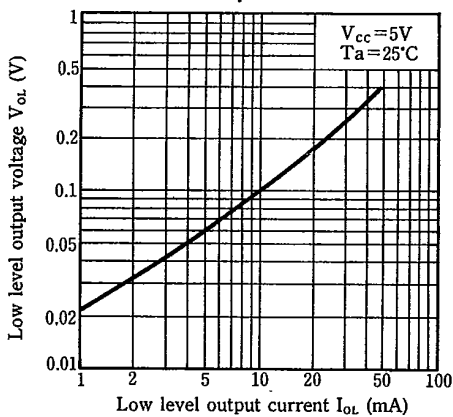


Fig. 5 Low Level Output Voltage vs. Low Level Output Current



T-41-73

■ Precautions for Use

This reflective type photointerrupter pulse-drives an infrared light emitting diode, and power supply fluctuations are induced with the pulse current, thereby causing malfunctions of the equipment.

Therefore, supply a stable supply voltage.

In addition, operation check using the actual equipment is recommended.

- 1) 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.
- 2) 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

This datasheet has been downloaded from:

www.DatasheetCatalog.com

Datasheets for electronic components.



LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.