



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



GP2A25

Light Modulation, Reflection Type Photointerrupter

■ Features

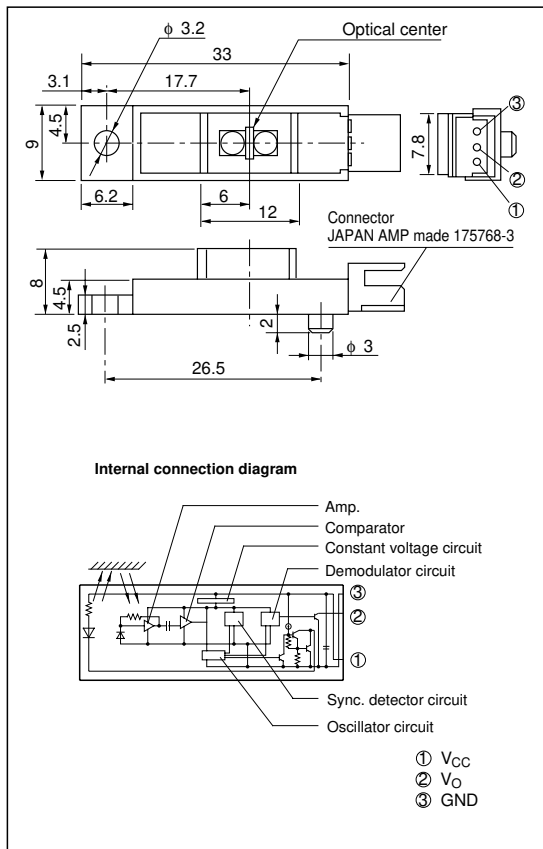
1. Light modulation system impervious to external disturbing light
2. Compact and 3-pin connector output type
(Volume : 30% less than **GP2A20**)
3. Long focal distance type (Optimum detecting distance : 3 to 7 mm)
4. Capable of TTL direct connection

■ 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

(Ta=25°C)

Parameter	Symbol	Rating	Unit	Remarks
Supply voltage	V_{CC}	- 0.5 to+ 7	V	-
Output voltage	V_O	30	V	-
Output current	I_{OL}	50	mA	Sink current *1
Operating temperature	T_{opr}	- 10 to+ 60	°C	The connector should be plugged in/out at normal temperature.
Storage temperature	T_{stg}	- 20 to+ 80	°C	

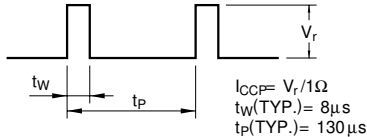
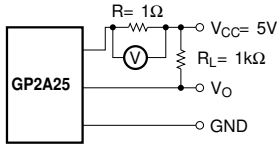
*1 Output current vs. ambient temperature : Per Fig. 1.

Electro-optical Characteristics

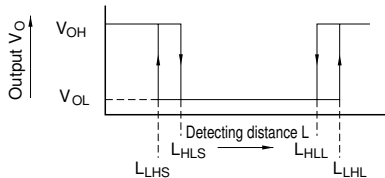
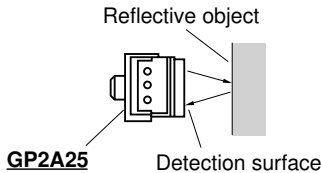
($V_{CC}=5V, T_a=25^{\circ}C$)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Supply voltage	V_{CC}	-	4.75	-	5.25	V
Dissipation current (I)	I_{CC}	$V_{CC}=5V, R_L=\infty$, smoothing value	-	-	30	mA
Dissipation current (II)	I_{CCP}	*1 $V_{CC}=5V$, 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}	$V_{CC}=5V, R_L=1k\Omega$, at non-detecting time	4.5	-	-	V
Non-detecting distance	L_{LHL}	*2 Kodak 90% reflective paper, $V_{CC}=5V$	-	-	27.0	mm
Detecting distance	L_{HLS}	*2 Kodak 90% reflective paper, $V_{CC}=5V$	-	-	1.0	mm
		*2 Black paper, $V_{CC}=5V$	-	-	3.0	mm
	L_{HLL}	*2 Kodak 90% reflective paper, $V_{CC}=5V$	9.0	-	-	mm
		*2 Black paper, $V_{CC}=5V$	7.0	-	-	mm
Response time	t_{PHL}	*3 $V_{CC}=5V$	-	-	1.0	ms
	t_{PLH}		-	-	1.0	ms
External disturbing light illuminance	EV_1	*4	3 000	-	-	lx
	EV_2		1 500	-	-	lx

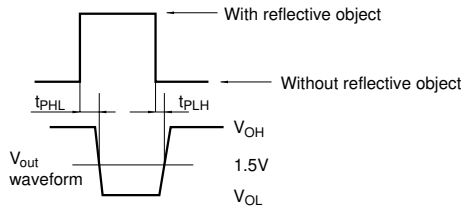
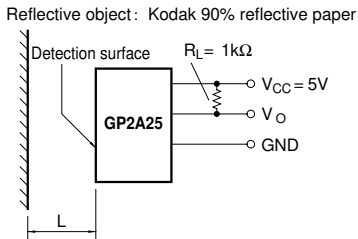
***1 Test Condition for Peak Pulse Value I_{CCP}**



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



***3 Test Circuit for Response Time**



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

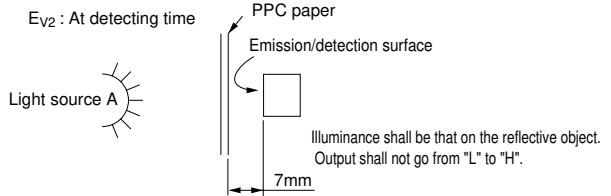
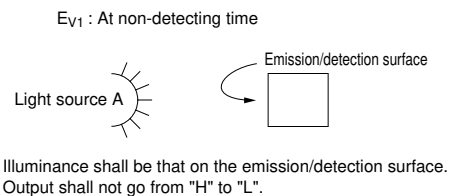


Fig. 1 Low Level Output Current vs. Ambient Temperature

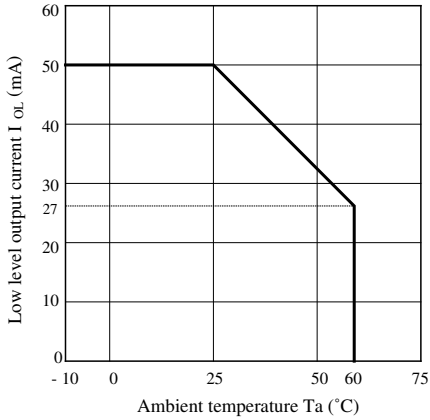


Fig. 2 Low Level Output voltage vs. Ambient Temperature

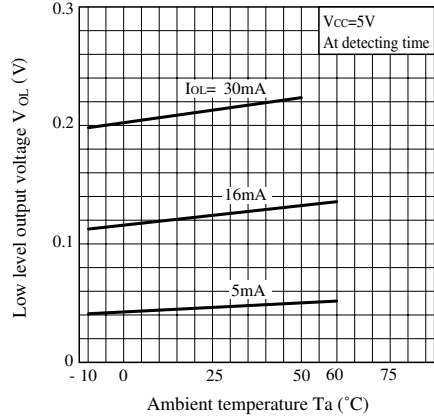


Fig. 3 Low Level Output Voltage vs. Low Level Output Current

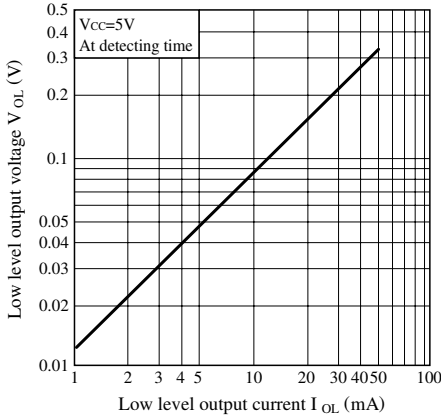
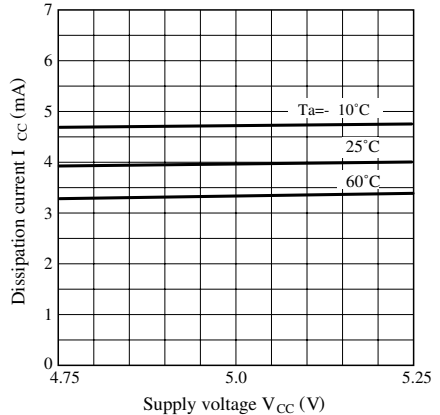


Fig. 4 Dissipation current (Smoothing Value) vs. Ambient Temperature



(Precautions for Use)

- 1) In order to stabilize power supply line, connect a by-pass capacitor of more than $0.33\mu F$ 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".

NOTICE

- The circuit application examples in this publication are provided to explain representative applications of SHARP devices and are not intended to guarantee any circuit design or license any intellectual property rights. SHARP takes no responsibility for any problems related to any intellectual property right of a third party resulting from the use of SHARP's devices.
- Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device. SHARP reserves the right to make changes in the specifications, characteristics, data, materials, structure, and other contents described herein at any time without notice in order to improve design or reliability. Manufacturing locations are also subject to change without notice.
- Observe the following points when using any devices in this publication. SHARP takes no responsibility for damage caused by improper use of the devices which does not meet the conditions and absolute maximum ratings to be used specified in the relevant specification sheet nor meet the following conditions:
 - (i) The devices in this publication are designed for use in general electronic equipment designs such as:
 - Personal computers
 - Office automation equipment
 - Telecommunication equipment [terminal]
 - Test and measurement equipment
 - Industrial control
 - Audio visual equipment
 - Consumer electronics
 - (ii) Measures such as fail-safe function and redundant design should be taken to ensure reliability and safety when SHARP devices are used for or in connection with equipment that requires higher reliability such as:
 - Transportation control and safety equipment (i.e., aircraft, trains, automobiles, etc.)
 - Traffic signals
 - Gas leakage sensor breakers
 - Alarm equipment
 - Various safety devices, etc.
 - (iii) SHARP devices shall not be used for or in connection with equipment that requires an extremely high level of reliability and safety such as:
 - Space applications
 - Telecommunication equipment [trunk lines]
 - Nuclear power control equipment
 - Medical and other life support equipment (e.g., scuba).
- Contact a SHARP representative in advance when intending to use SHARP devices for any "specific" applications other than those recommended by SHARP or when it is unclear which category mentioned above controls the intended use.
- If the SHARP devices listed in this publication fall within the scope of strategic products described in the Foreign Exchange and Foreign Trade Control Law of Japan, it is necessary to obtain approval to export such SHARP devices.
- This publication is the proprietary product of SHARP and is copyrighted, with all rights reserved. Under the copyright laws, no part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, in whole or in part, without the express written permission of SHARP. Express written permission is also required before any use of this publication may be made by a third party.
- Contact and consult with a SHARP representative if there are any questions about the contents of this publication.