GP2Y0D340K

Compact Distance Measuring Sensors

■ Features

1. Less influence on the color of reflective objects, reflectivity
2. Line-up of distance judgement type
   Detecting distance:10 to 60cm
   Judgement distance:40cm
   (Adjustable within the range of 10 to 60cm [Optionally available])
3. External control circuit is unnecessary

■ Applications

1. LCD monitor
2. Sanitary equipment
3. Personal computers
4. Game machine

■ Absolute Maximum Ratings (T_a=25˚C, V_{CC}=5V)

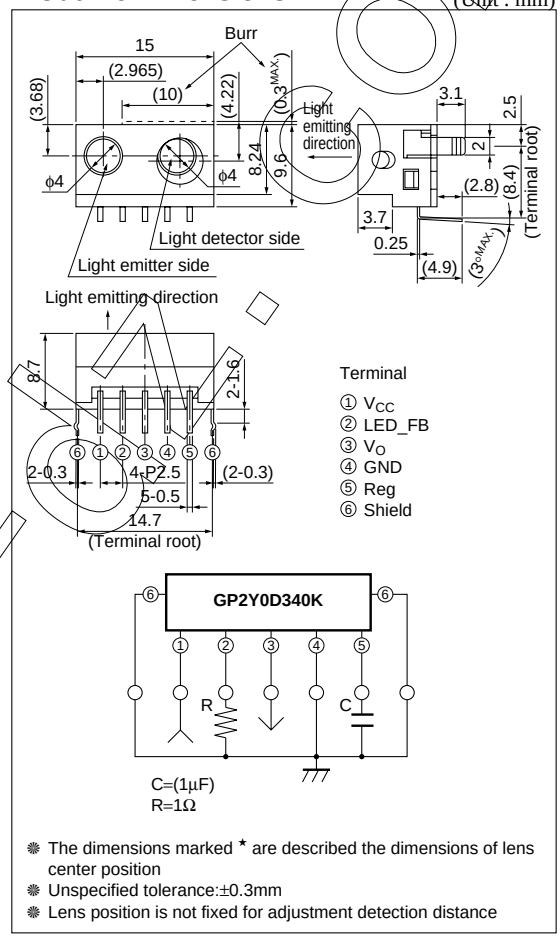
Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	−0.3 to +7	V
Output terminal voltage	V_O	−0.3 to V_{CC} +0.3	V
Operating temperature	T_{opr}	−10 to +60	˚C
Storage temperature	T_{stg}	−20 to +70	˚C

■ Recommended Operating Conditions

Parameter	Symbol	Rating	Unit
Operating supply voltage	V_{CC}	4.5 to +5.5	V

■ Outline Dimensions

(Unit : mm)



✹ The dimensions marked ⋆ are described the dimensions of lens center position
✹ Unspecified tolerance:±0.3mm
✹ Lens position is not fixed for adjustment detection distance

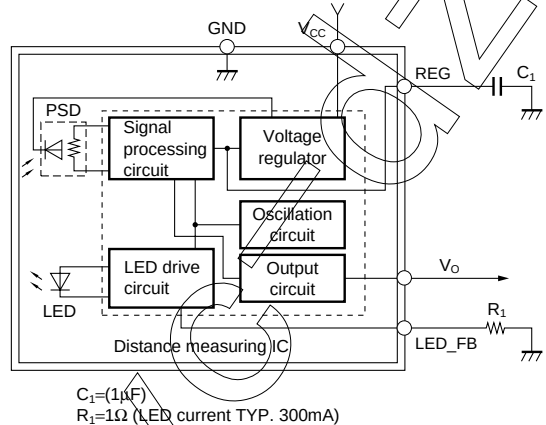
■ Electro-optical Characteristics

(T_a=25˚C, V_{CC}=5V)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Distance measuring range	ΔL	*1 *3	10	–	60	cm
Output terminal voltage	V_{OH}	Output voltage at High *1	V_{CC} −0.3	–	–	V
	V_{OL}	Output voltage at Low*1	–	–	0.6	V
Distance characteristics of output	V_O	*1 *4 *2	35	40	45	cm
Average dissipation current	I_{CC}	at R_1=1Ω	–	28	35	mA

Note) L : Distance to reflective object
*1 Using reflective object : White paper (Made by Kodak Co. Ltd. gray cards R-27 · white face, reflective ratio;90%)
*2 We ship the device after the following adjustment : Output switching distance L=40cm±5cm must be measured by the sensor
*3 Distance measuring range of the optical sensor system
*4 Output switching has a hysteresis width. The distance specified by Vo should be the one with which the output L switches to the output H

Fig.1 Internal Block Diagram



C_1=(1μF)
R_1=1Ω (LED current TYP. 300mA)

Fig.2 Timing Chart

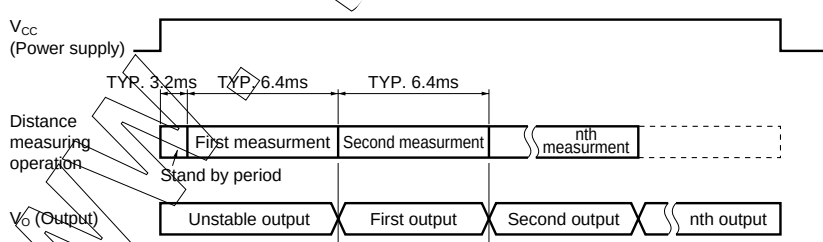
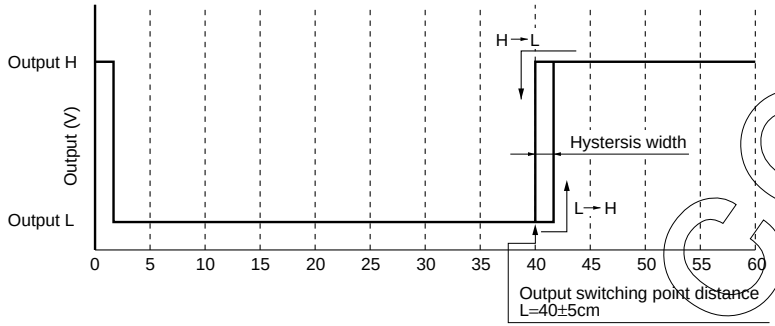


Fig.3 Distance Characteristics



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).

- If the SHARP devices listed in this publication fall within the scope of strategic products described in the Foreign Exchange and Foreign Trade 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.