SHARP GP2Y0A02YK

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■ Features

- 1. Less influence on the colors of reflected objects and their reflectivity, due to optical triangle measuring method
- 2. Distance output type

(Detection range:20 to 150cm)

An external control circuit is not necessary
 Output can be connected directly to a microcomputer

■ Applications

 For detection of human body and various types of objects in home appliances, OA equipment, etc

■ Absolute Maximum Ratings

 $(T_a=25^{\circ}C)$

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	-0.3 to +7	V
*1 Output terminal voltage	Vo	-0.3 to V_{CC} +0.3	V
Operating temperature	Topr	-10 to +60	°C
Storage temperature	T _{stg}	-40 to +70	°C

^{*1} Open collector output

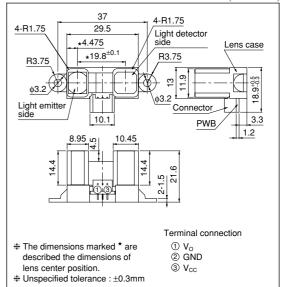
■ Recommended Operating Conditions

Parameter	Symbol	Rating	Unit
Operating Supply voltage	V _{CC}	4.5 to 5.5	V

Long Distance Measuring Sensor

■ Outline Dimensions

(Unit: mm)



■ Electro-optical Characteristics

(T.:	=259	$^{\circ}$ C	V	=5V
(I a-	-23	ς,	* (:(-J V)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Distance measuring range	ΔL	*2 *3	20	_	150	cm
Output terminal voltage	Vo	*2 L=150cm	0.25	0.4	0.55	V
Difference of output voltage	$\Delta V_{\rm O}$	*2 Output change at L=150cm to 20cm	1.8	2.05	2.3	V
Average dissipation current	I_{CC}	-	_	33	50	mA

Note) L:Distance to reflective object

Fig.1 Internal Block Diagram

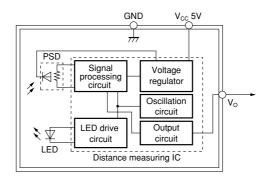
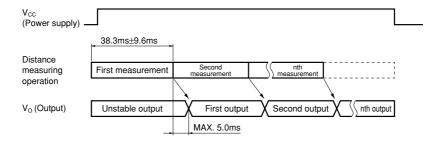


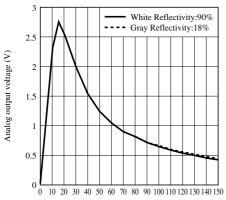
Fig.2 Timing Chart



^{*2} Using reflective object: White paper (Made by Kodak Co. Ltd. gray cards R-27 · white face, reflective ratio; 90%)

^{*3} Distance measuring range of the optical sensor system

Fig.3 Analog Output Voltage vs. Distance to Reflective Object



Distance to reflective object L (cm)

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