

GP2Y0A02YK

Long Distance Measuring Sensor

■ 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)
3. An external control circuit is not necessary
Output can be connected directly to a microcomputer

■ Applications

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

■ Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	-0.3 to +7	V
*1 Output terminal voltage	V_O	-0.3 to $V_{CC}+0.3$	V
Operating temperature	T_{opr}	-10 to +60	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +70	$^\circ\text{C}$

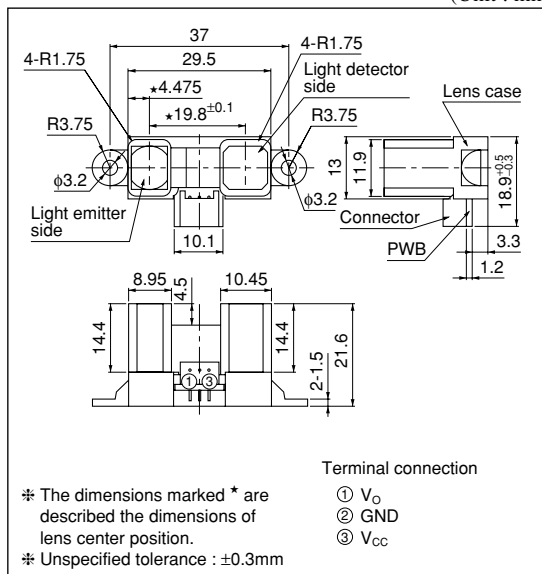
*1 Open collector output

■ Recommended Operating Conditions

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

■ Outline Dimensions

(Unit : mm)



■ Electro-optical Characteristics

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

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

Note) L: Distance to reflective object
^{*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.1 Internal Block Diagram

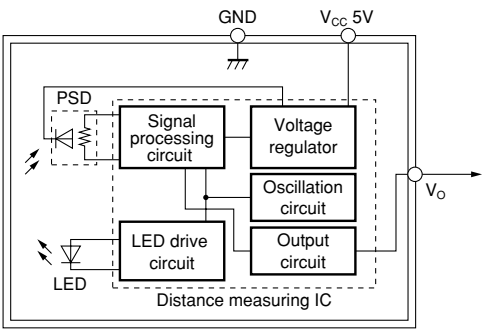


Fig.2 Timing Chart

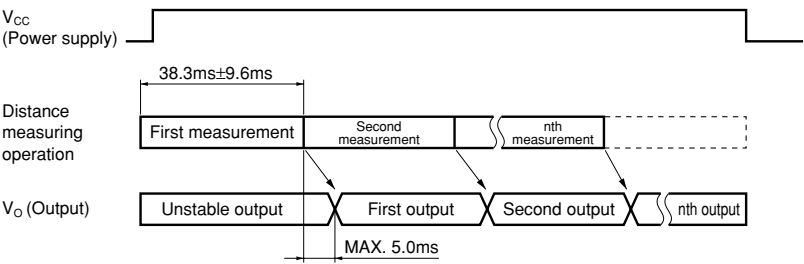
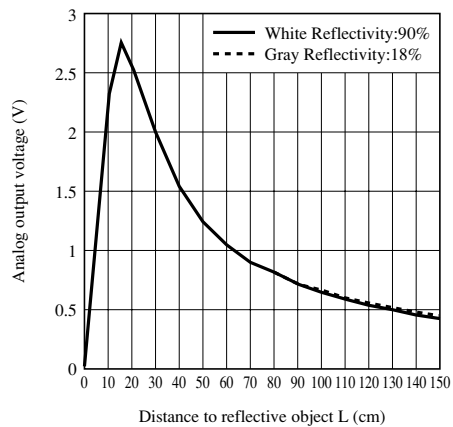


Fig.3 Analog Output Voltage vs. Distance to Reflective Object



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