GP2D150A

General Purpose Distance Measuring Sensor

■ Features

1. Less influence on the color and reflectivity of reflective objects, due to optical triangle mesuring method
2. Distance judgement type
   Judgement distance:15cm (Detection range:3 to 30cm)
3. External control circuit is unnecessary
   Output can be directly connected to microcomputers
4. Low cost

■ Applications

1. Detection of objects such as home appliances and OA equipment, detection of human body

■ Absolute Maximum Ratings (Ta=25°C)

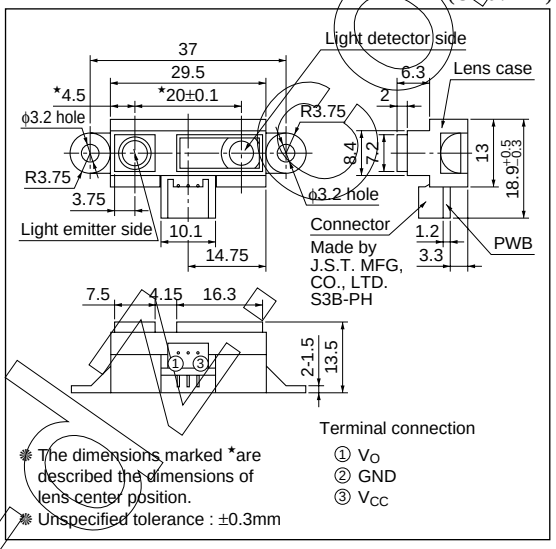
Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	−0.3 to +7	V
*1 Output terminal voltage	V_O	−0.3 to V_{CC} +0.3	V
Operating temperature	T_{opr}	−10 to +60	°C
Storage temperature	T_{stg}	−40 to +70	°C

*1 Open collector output

■ Recommended Operating Conditions

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

■ Outline Dimensions (Unit : mm)



■ Electro-optical Characteristics

(Ta=25°C, Vcc=5V)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Distance measuring range	ΔL	*2 *4	3	–	30	cm
Output terminal voltage	V_{OH}	*2 Output voltage at high level	V_{CC} –0.3	–	–	V
	V_{OL}	*2 Output voltage at low level	–	–	0.6	V
Distance characteristics of output	V_O	*2 *3 *5	12.5	15	17.5	cm
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 We ship the device after the following adjustment:Output switching distance L=15cm±2.5cm must be measured by the sensor
*4 Distance measuring range of the optical sensor system
*5 Output switching has a hysteresis width. The distance specified by V_O should be the one with which the output L switches to the output H

Fig.1 Internal Block Diagram

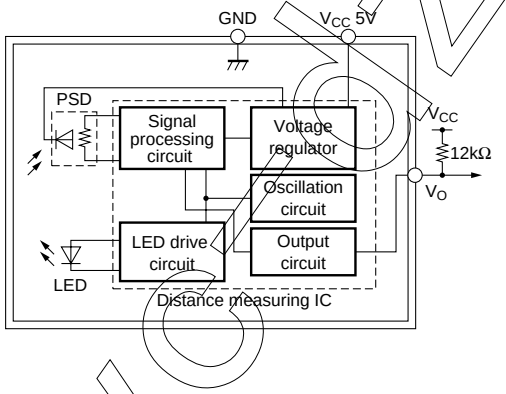


Fig.2 Timing Chart

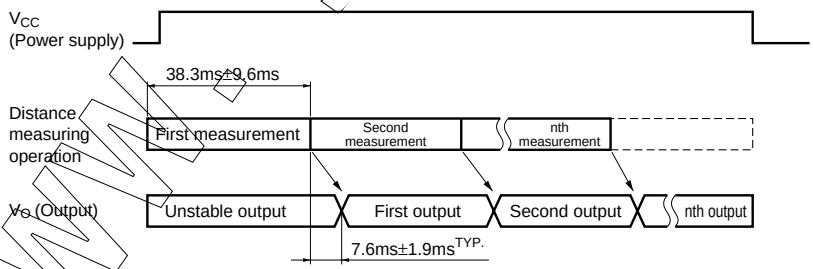
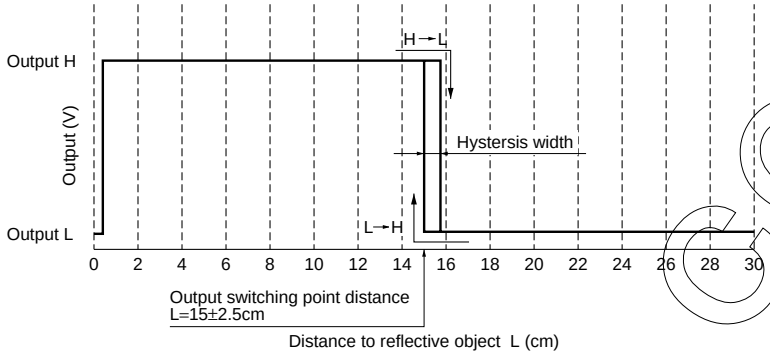


Fig.3 Distance Characteristics



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