

GP2Y0A21YK/ GP2Y0D21YK

■ Features

1. Less influence on the color of reflective objects, reflectivity
2. Line-up of distance output/distance judgement type
Distance output type (analog voltage) : **GP2Y0A21YK**
Detecting distance : 10 to 80cm
Distance judgement type : **GP2Y0D21YK**
Judgement distance : 24cm
(Adjustable within the range of 10 to 80cm [Optionally available])
3. External control circuit is unnecessary
4. Low cost

■ Applications

1. TVs
2. Personal computers
3. Cars
4. Copiers

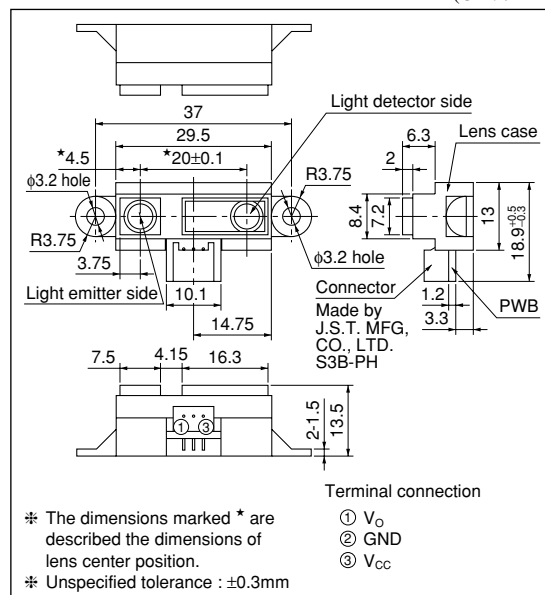
■ Absolute Maximum Ratings (T_a=25°C, V_{CC}=5V)

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}	-40 to +70	°C

General Purpose Type Distance Measuring Sensors

■ Outline Dimensions

(Unit : mm)



■ Recommended Operating Conditions

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

■ Electro-optical Characteristics

(T_a=25°C, V_{CC}=5V)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Distance measuring range		ΔL	*1 *3	10	—	80	cm
Output terminal voltage	GP2Y0A21YK	V _O	L=80cm *1	0.25	0.4	0.55	V
	GP2Y0D21YK	V _{OH}	Output voltage at High *1	V _{CC} −0.3	—	—	V
		V _{OL}	Output voltage at Low *1	—	—	0.6	V
Difference of output voltage	GP2Y0A21YK	ΔV _O	Output change at L=80cm to 10cm *1	1.65	1.9	2.15	V
Distance characteristics of output	GP2Y0D21YK	V _O	*1 *4 *2	21	24	27	cm
Average Dissipation current		I _{CC}	L=80cm *1	—	30	40	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=24cm±3cm 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 V_O should be the one with which the output L switches to the output H

Fig.1 Internal Block Diagram

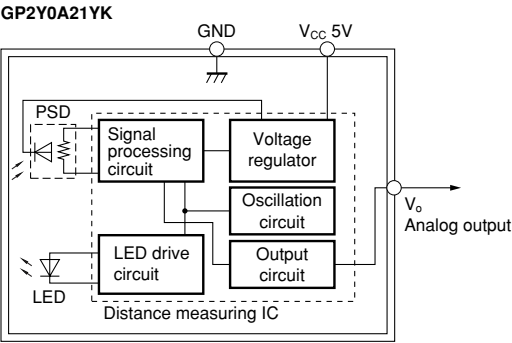


Fig.2 Internal Block Diagram

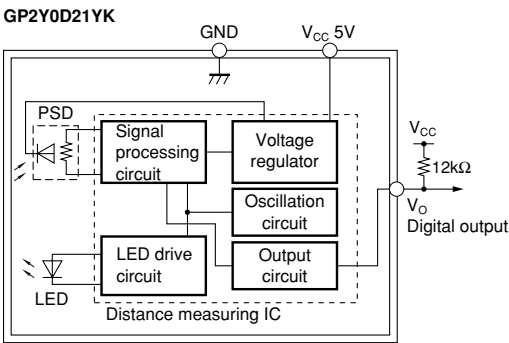


Fig.3 Timing Chart

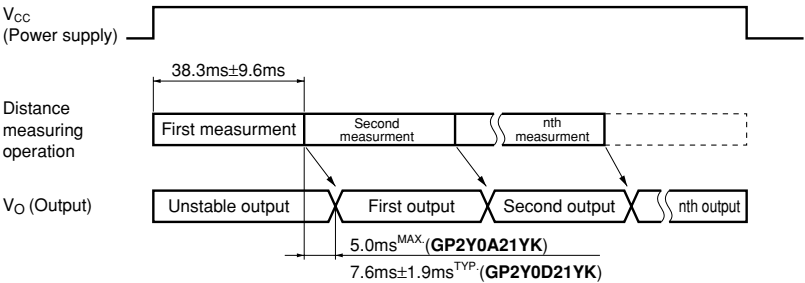


Fig.4 Distance Characteristics

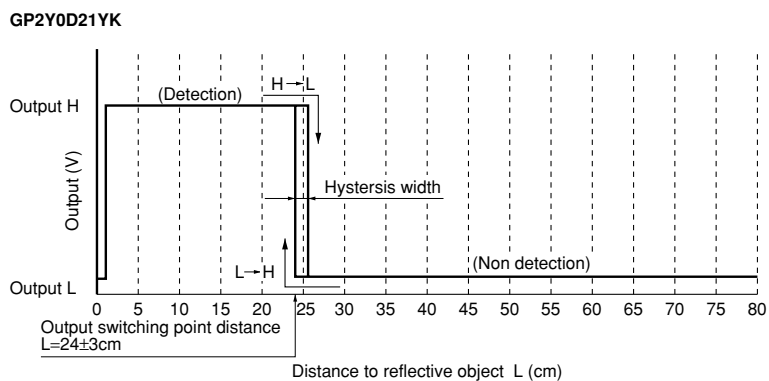
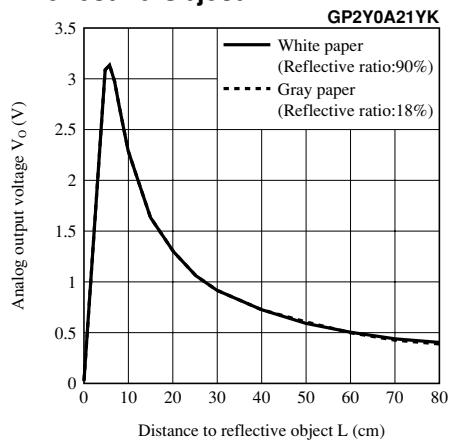


Fig.5 Analog Output Voltage vs. Distance to Reflective Object



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