

# GP2D120

## General Purpose Type Distance Measuring Sensors

### ■ 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) : **GP2D120**  
Detecting distance : 4 to 30cm
3. External control circuit is unnecessary

### ■ Applications

1. TVs
2. Personal computers
3. Amusement equipment
4. Copiers

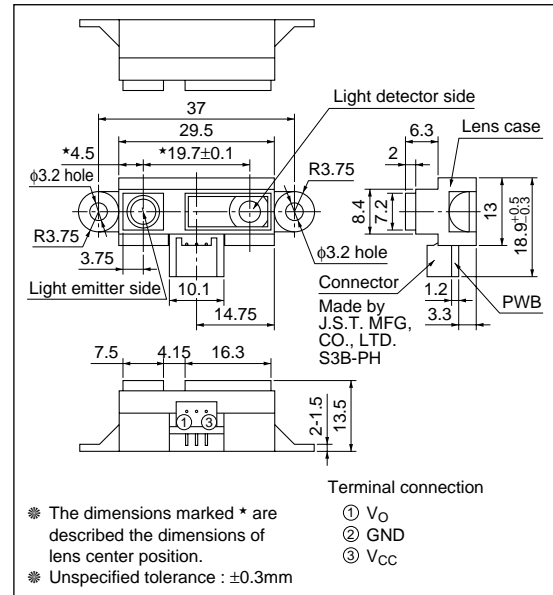
### ■ Absolute Maximum Ratings

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

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	$^{\circ}\text{C}$
Storage temperature	$T_{stg}$	-40 to +70	$^{\circ}\text{C}$

### ■ Outline Dimensions

(Unit : mm)



■ Recommended Operating Conditions

Parameter	Symbol	Rating	Unit
Operating supply voltage	V <sub>CC</sub>	4.5 to +5.5	V

■ Electro-optical Characteristics

(T<sub>a</sub>=25°C, V<sub>CC</sub>=5V)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Distance measuring range	ΔL	*1 *2	4	—	30	cm
Output terminal voltage	V <sub>o</sub>	L=30cm *1	0.25	0.4	0.55	V
Difference of output voltage	ΔV <sub>o</sub>	Output change at L=30cm to 4cm *1	1.95	2.25	2.55	V
Average Dissipation current	I <sub>CC</sub>	L=30cm *1	—	33	50	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 Distance measuring range of the optical sensor system.

Fig.1 Internal Block Diagram

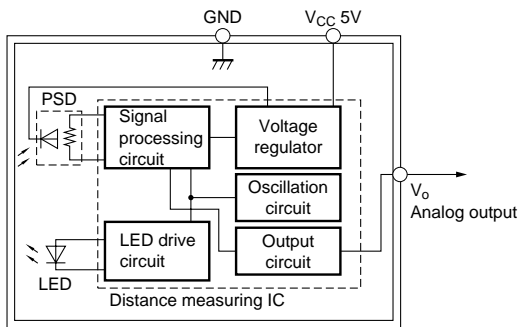
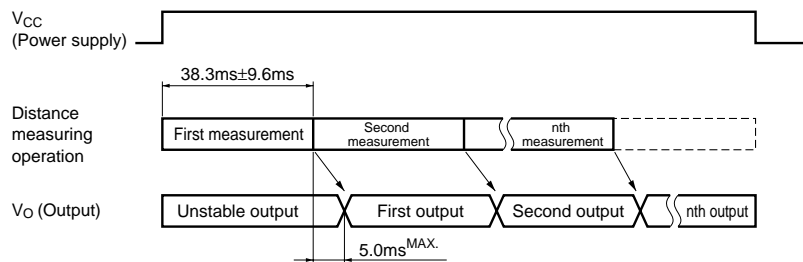
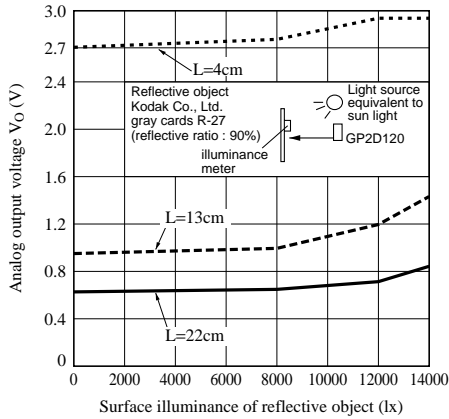


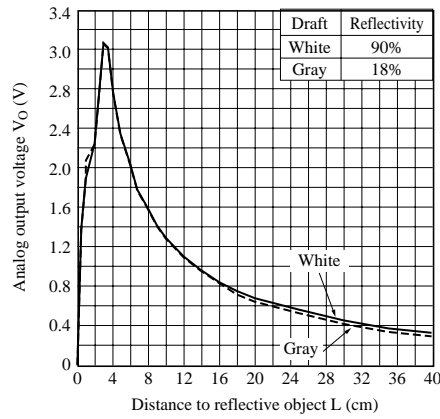
Fig.2 Timing Chart



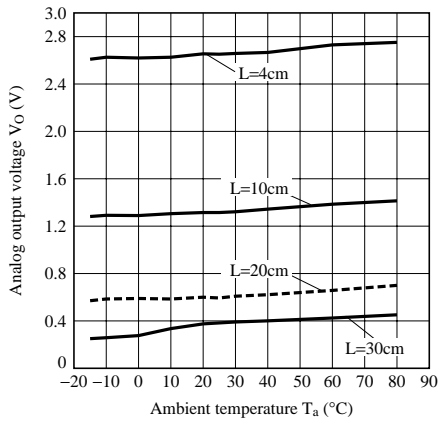
**Fig.3 Analog Output Voltage vs. Surface Illuminance of Reflective Object**



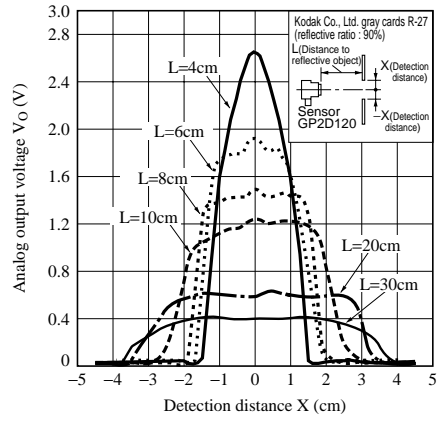
**Fig.4 Analog Output Voltage vs. Distance to Reflective Object**



**Fig.5 Analog Output Voltage vs. Ambient Temperature**



**Fig.6 Analog Output Voltage vs. Detection Distance**



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