GP2Y0A02YK0F

Distance Measuring Sensor Unit
Measuring distance: 20 to 150 cm
Analog output type

■Description

GP2Y0A02YK0F is a distance measuring sensor unit, composed of an integrated combination of PSD (position sensitive detector) , IRED (infrared emitting diode) and signal processing circuit.
The variety of the reflectivity of the object, the environmental temperature and the operating duration are not influenced easily to the distance detection because of adopting the triangulation method.
This device outputs the voltage corresponding to the detection distance. So this sensor can also be used as a proximity sensor.

■Features

1. Distance measuring range : 20 to 150 cm
2. Analog output type
3. Package size : 29.5×13×21.6 mm
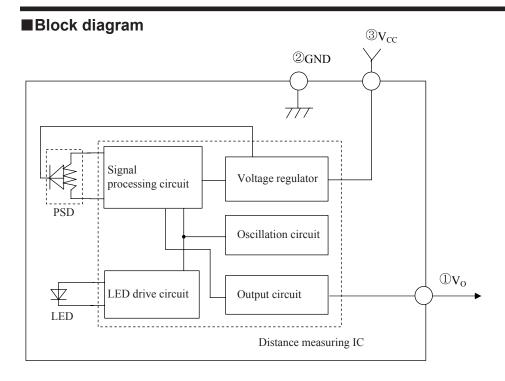4. Consumption current : Typ. 33 mA
5. Supply voltage : 4.5 to 5.5 V

■Agency approvals/Compliance

1. Compliant with RoHS directive (2002/95/EC)

■Applications

1. Touch-less switch
   (Sanitary equipment, Control of illumination, etc.)
2. Sensor for energy saving
   (ATM, Copier, Vending machine, Laptop computer, LCD monitor)
3. Amusement equipment
   (Robot, Arcade game machine)

■Block diagram

③V_{CC}

②GND

Signal processing circuit

Voltage regulator

PSD

Oscillation circuit

LED drive circuit

Output circuit

LED

①V_O

Distance measuring IC

■Outline Dimensions

(Unit : mm)

Stamp

2Y0A02 F 48
SHARP

Stamp (Example)

SHARP
2Y0A02 F   4 8
Model name

Production month : Jan. to Sep. ; 1 to 9
Oct. ; X, Nov. ; Y, Dec. ; Z

Production year : Last digit of prod. year

37
29.5
4-R1.75
* 4.475
Light emitter side
* 19.8±0.1
R3.75
8.4
ø3.2
10.1

4-R1.75
Light detector side
R3.75
ø3.2

Lens case
13
11.9
18.9+0.5/-0.3
Connector
PWB
(3.3)
1.2

8.95
10.45
4.5
14.4
14.4
21.6
2-1.5
① ③

Terminal		Symbol
①	Output terminal voltage	V_O
②	Ground	GND
③	Supply voltage	V_{CC}

Note 1. Unspecified tolerances shall be ± 0.3 mm.
Note 2. The connector is made by J.S.T.TRADING COMPANY,LTD. and its part number is S3B-PH.
Note 3. The dimensions in parenthesis are shown for reference.
Note 4. The dimension marked by "*" show a distance from/to the center of an internal optical slit.

Product mass : approx. 4.8g