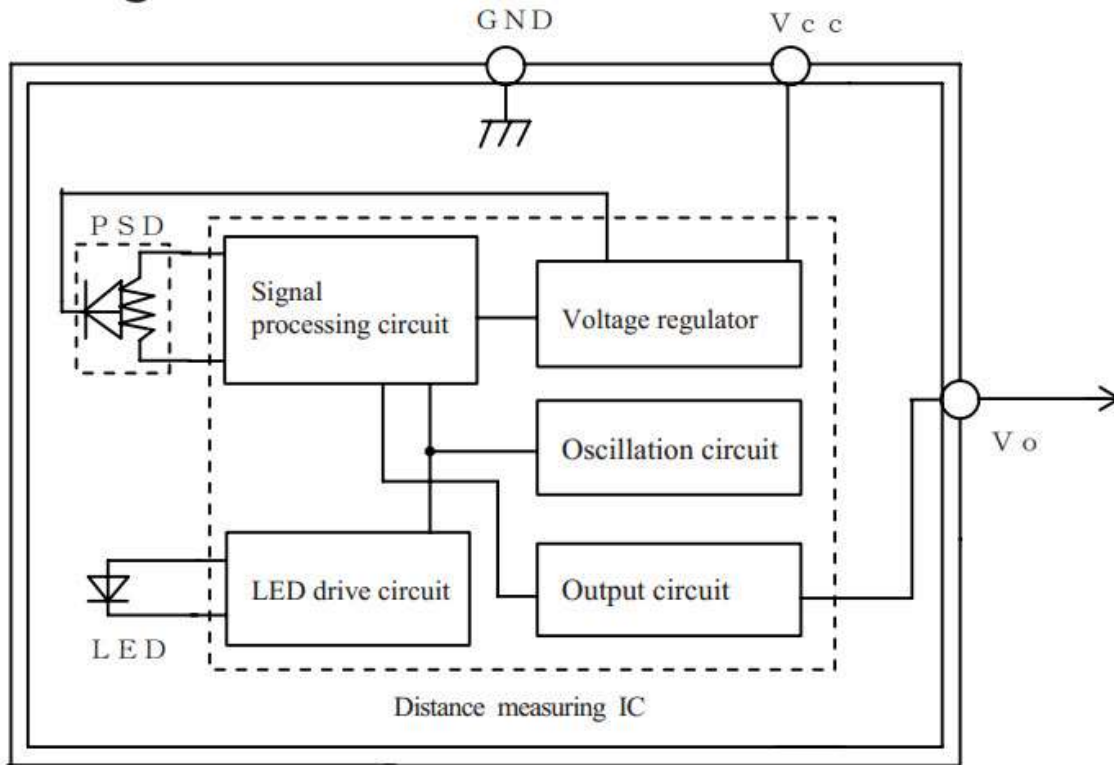


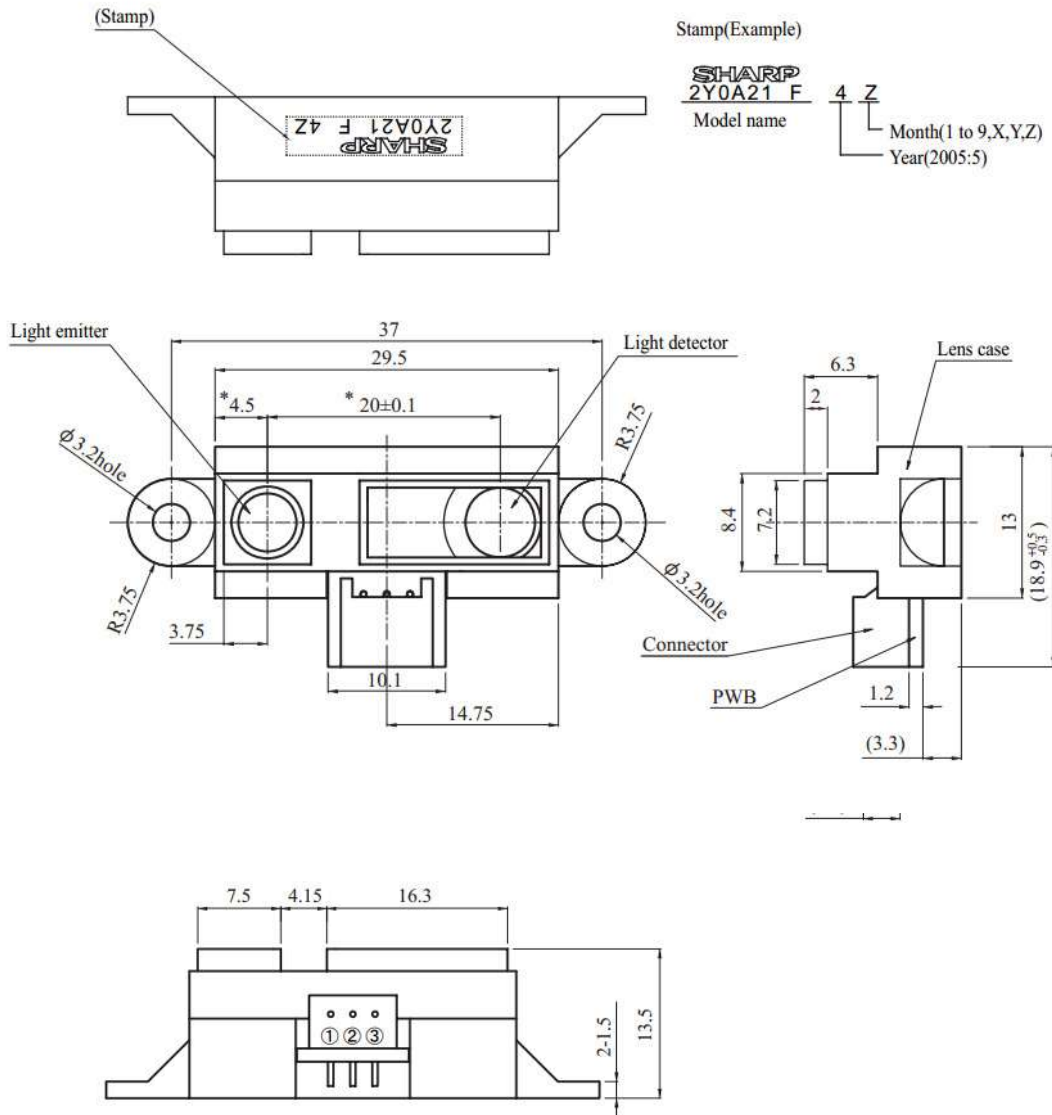
Structure interne diagramme:



Capteur

| | | | | |
|--|--|--|---|---|
|  <p>GREAT IT GP2Y0A21YK0F 100% NEW 2Y0A21 10-80cm</p> <p>USD 3.5 / piece /lot 1</p> |  <p>GREAT IT DSMS01A Dust Sensor Module PM2.5 Detection</p> <p>USD 4.6 / piece /lot 1</p> |  <p>GP2Y0A02YK0F 20-150CM Infrared IR Sensor Infrared Proximity</p> <p>USD 4.5 / piece /lot 1</p> |  <p>GREAT IT 1PCS GP2Y1014AU0F Compact</p> <p>USD 3.65 / piece /lot 1</p> |  <p>Smart Car Robot E18 D80NK Infrared Obstacle Avoidance</p> <p>USD 2.56 / piece /lot 1</p> |
|--|--|--|---|---|

Produit taille dessin:



Connector signal

| signal name |
|-------------------|
| ① V _o |
| ② GND |
| ③ V _{cc} |

Connector :
J.S.T.TRADING COMPANY,LTD,
S3B-PH

Materials

- Lens :Acrylic acid resin (Visible light cut-off resin)
- Case :Carbonic ABS (Conductive resin)
- PWB :Paper phenol

Note 1. The dimensions marked * are described the dimensions of lens center position.

Note 2. Unspecified tolerances shall be ± 0.3 mm.

Note 3. The dimensions in parenthesis are shown for reference.

Evaluation sur l'article paramètres:

■ 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 |

Propriétés photoélectriques:

■ Electro-optical Characteristics

(Ta=25°C, Vcc=5V)

| Parameter | Symbol | Conditions | MIN. | TYP. | MAX. | Unit |
|-----------------------------|-----------------|--|------|------|------|------|
| Average supply current | I _{CC} | L=80cm (Note 1) | — | 30 | 40 | mA |
| Distance measuring | ΔL | (Note 1) | 10 | — | 80 | cm |
| Output voltage | V _O | L=80cm (Note 1) | 0.25 | 0.4 | 0.55 | V |
| Output voltage differential | ΔV _O | Output voltage difference between L=10cm and L=80cm (Note 1) | 1.65 | 1.9 | 2.15 | V |

* L : Distance to reflective object

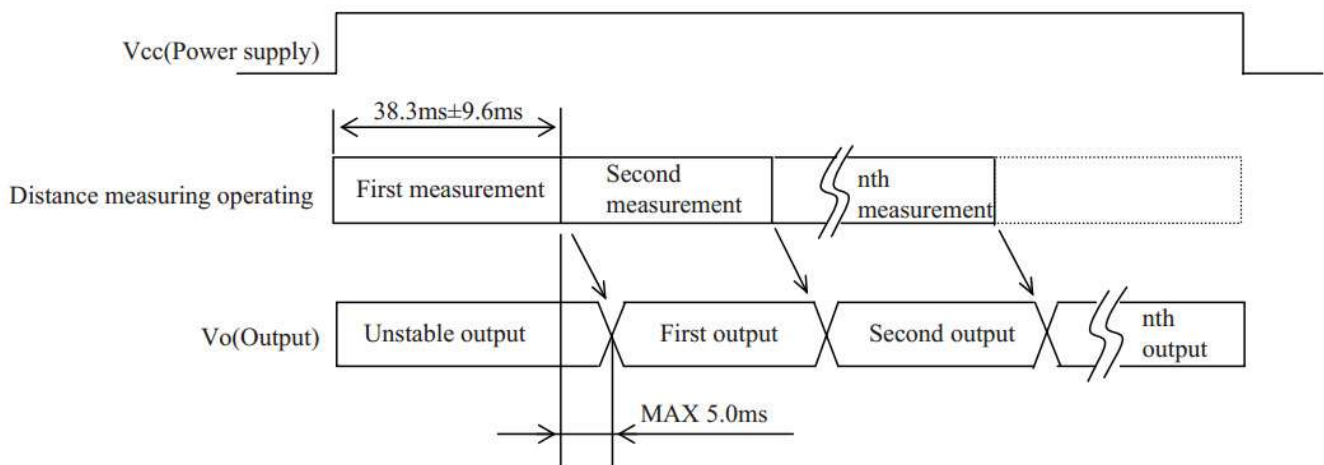
Note 1 : Using reflective object : White paper (Made by Kodak Co., Ltd. gray cards R-27·white face, reflectance; 90%)

Recommandé conditions d'utilisation:

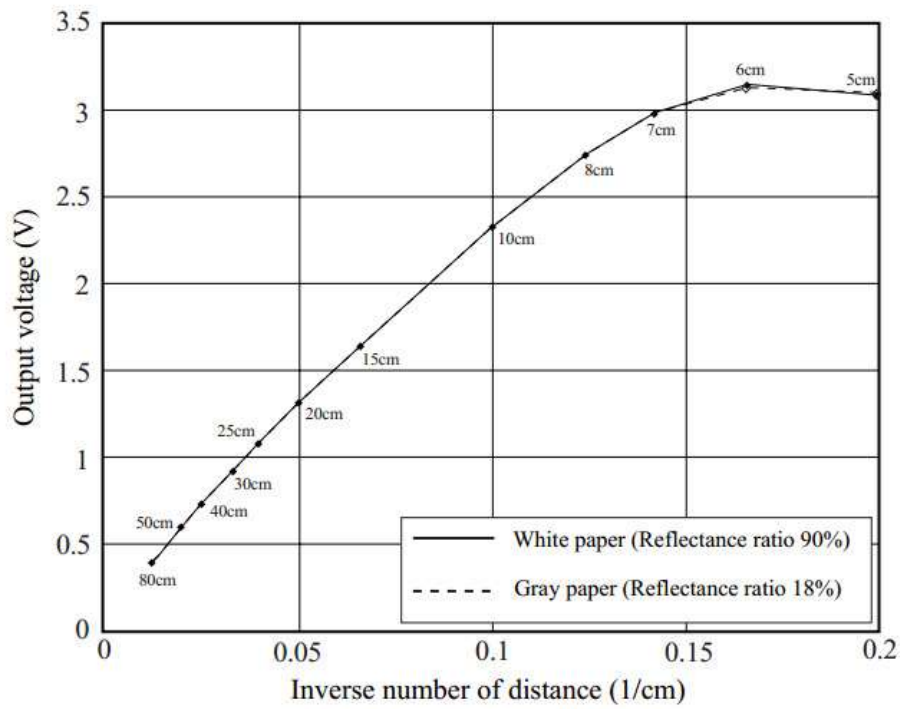
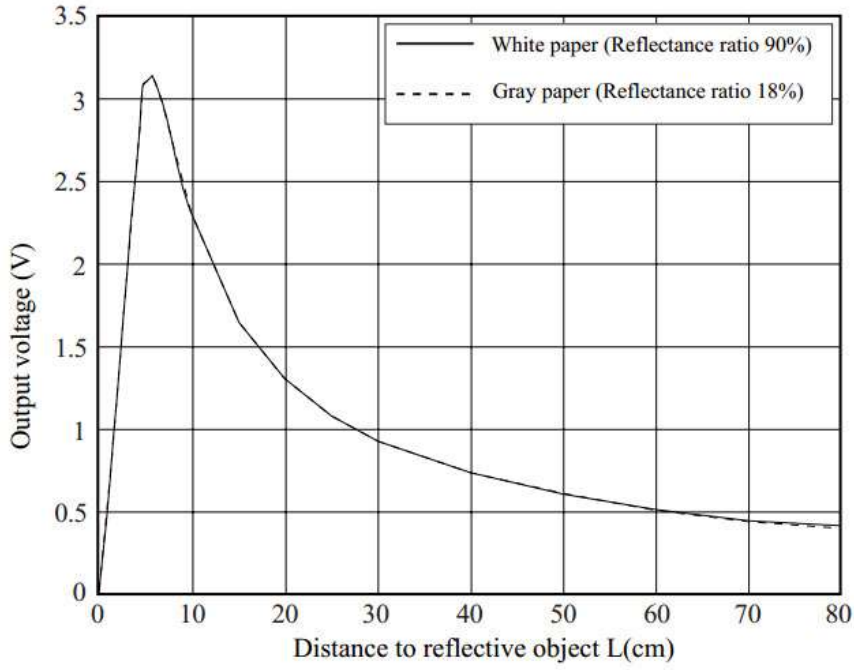
■ Recommended operating conditions

| Parameter | Symbol | Rating | Unit |
|----------------|-----------------|------------|------|
| Supply voltage | V _{CC} | 4.5 to 5.5 | V |

Temps de réponse:



Exemple de caractéristiques de mesure de distance (sortie):

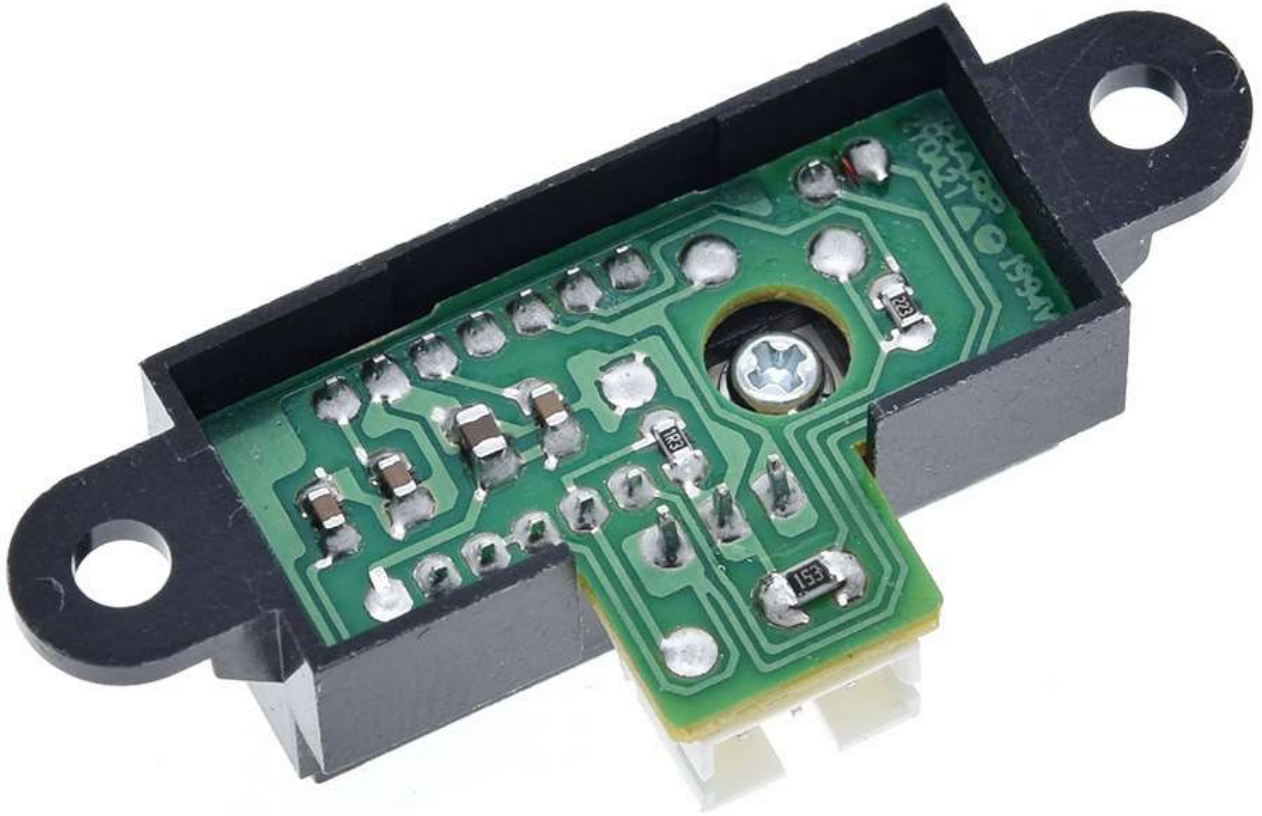














PRODUCT Information

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, then 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

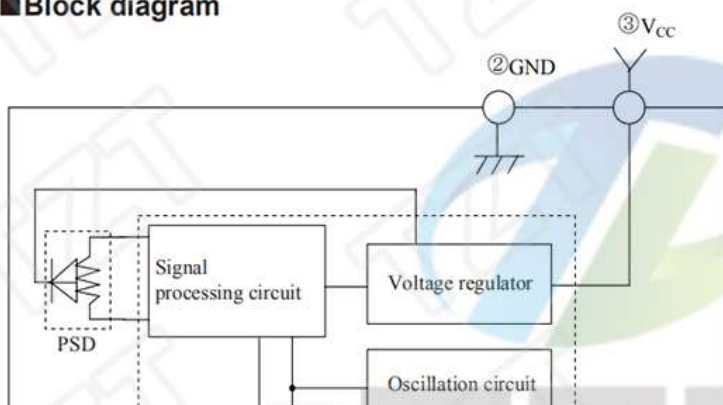
AGENCY APPROVALS/COMPLIANCE

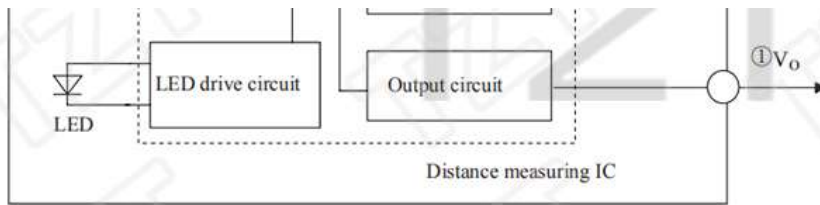
1. Compliant with RoHS directive (2002/95/EC)

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





Outline Dimensions

(Unit : mm)

Stamp (Example)

2Y0A02 F 4 8
 Model name 4 8
 Production month : Jan. to Sep. ; 1 to 9
 Oct. ; X, Nov. ; Y, Dec. ; Z
 Production year : Last digit of prod. year

| 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

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 |

Electro-optical Characteristics

(T_a=25°C, V_{CC}=5V)

| Parameter | Symbol | Conditions | MIN. | TYP. | MAX. | Unit |
|-----------|--------|------------|------|------|------|------|
|-----------|--------|------------|------|------|------|------|

| | | | | | | |
|-----------------------------|--------------|---|------|------|------|----|
| Average supply current | I_{CC} | L=150cm (Note 1) | — | 33 | 50 | mA |
| Measuring distance range | ΔL | (Note 1) | 20 | — | 150 | cm |
| Output voltage | V_O | L=150cm (Note 1) | 0.25 | 0.4 | 0.55 | V |
| Output voltage differential | ΔV_O | Output voltage difference between L=20cm and L=150cm (Note 1) | 1.8 | 2.05 | 2.3 | V |

* L : Distance to reflective object

Note 1 : Using reflective object : White paper (Made by Kodak Co., Ltd. gray cards R-27·white face, reflectance; 90%)

Recommended operating conditions

| Parameter | Symbol | Conditions | Rating | Unit |
|----------------|----------|------------|------------|------|
| Supply voltage | V_{CC} | | 4.5 to 5.5 | V |

Fig. 1 Timing chart

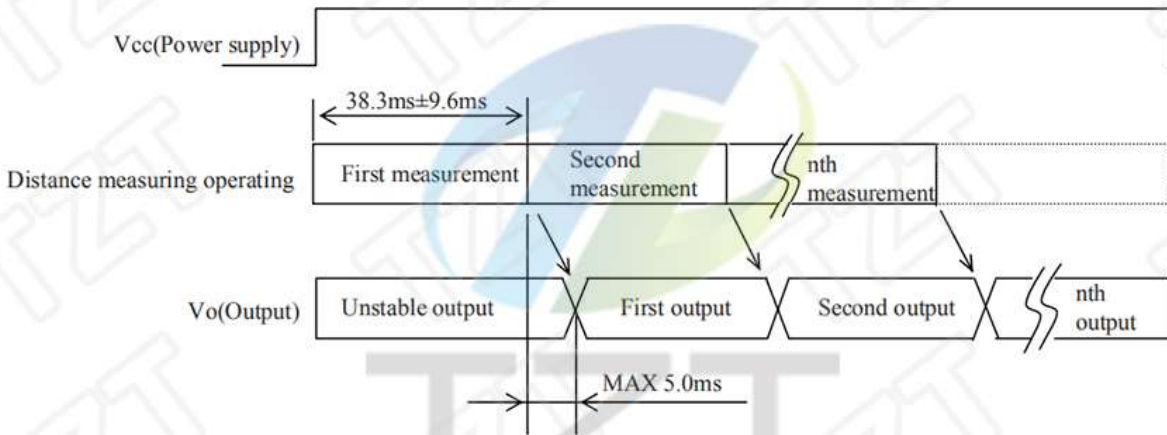
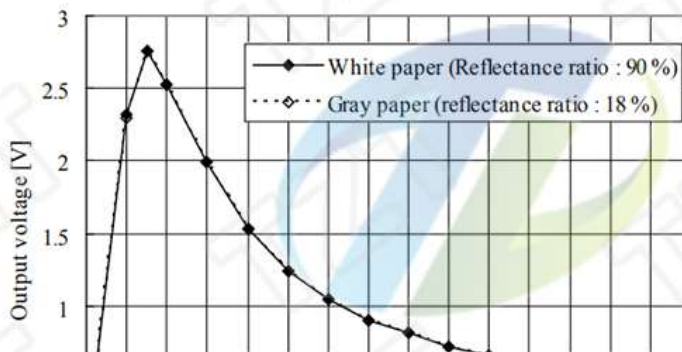
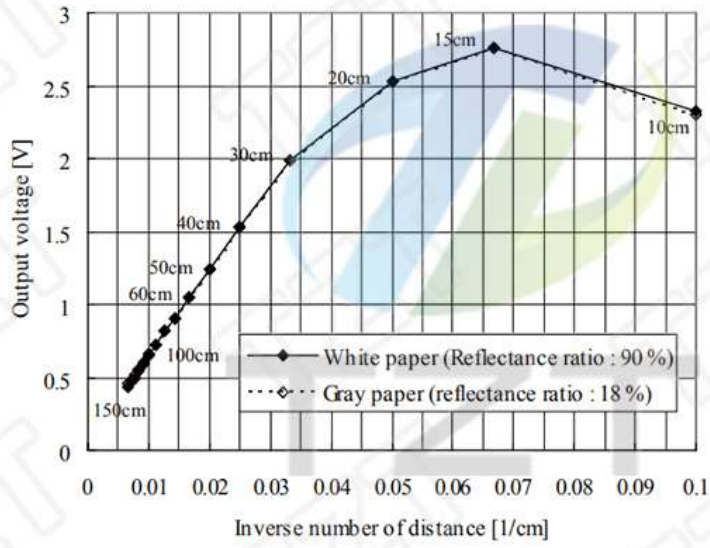
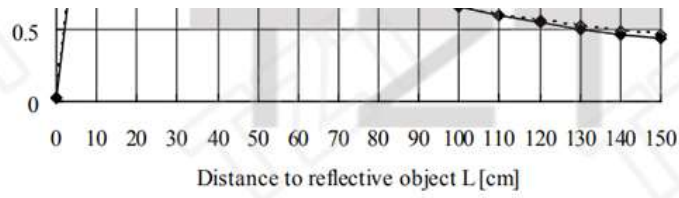


Fig. 2 Example of distance measuring characteristics (output)



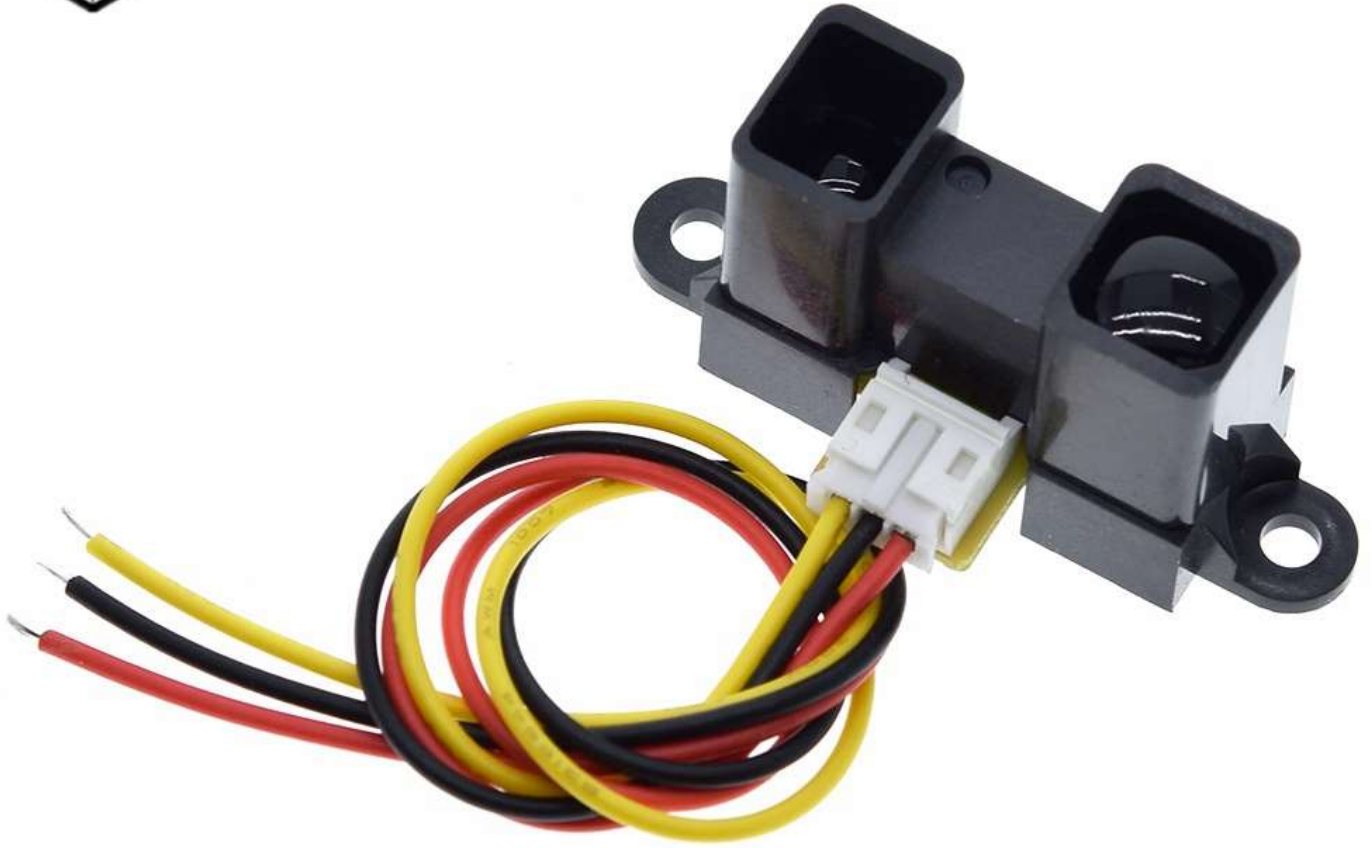




GP2Y0A02YK0F

20-150CM







Weight : 6.95g
(with wire)

