

### ■ 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           | $^{\circ}\text{C}$ |

### ■ Electro-optical Characteristics ( $T_a=25^{\circ}\text{C}$ , $V_{CC}=5\text{V}$ )

| Parameter                | Symbol     | Conditions                           | MIN.         | TYP. | MAX. | Unit |
|--------------------------|------------|--------------------------------------|--------------|------|------|------|
| Average supply current   | $I_{CC}$   |                                      | —            | 33   | 50   | mA   |
| Detecting distance range | $\Delta L$ | (Note 1)(Note 3)                     | 20           | —    | —    | cm   |
| Output voltage           | $V_{OH}$   | Output voltage at high level(Note 1) | $V_{CC}-0.3$ | —    | —    | V    |
|                          | $V_{OL}$   | Output voltage at low level(Note 1)  | —            | —    | 0.6  | V    |
| Detecting distance       | L          | (Note 1)(Note 2)(Note 4)             | 70           | 80   | 90   | cm   |

\* 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%)

(Note 2) The individual product shall be adjusted to have  $L = 80 \text{ cm} \pm 10 \text{ cm}$  as the distance before shipping detecting.

(Note 3) Possible distance measuring range (of the sensor optics)

(Note 4) Output voltage switch has a hysteresis width. The distance specified by L should be the distance which the output turns from L to H in case an object moves to the sensor.

### ■ Recommended operating conditions

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

Fig. 1 Timing chart

