2. Maximum Rated Values

Items	Specified value
Power Supply Voltage	−0.3～4.5V DC
Usable Ambient Temperature	−20～+60℃ (−4～+140℉) Do not use in a freezing or condensation environment.
Storage Temperature	−20～+70℃ (−4～+158℉)

3. Electrical Characteristic

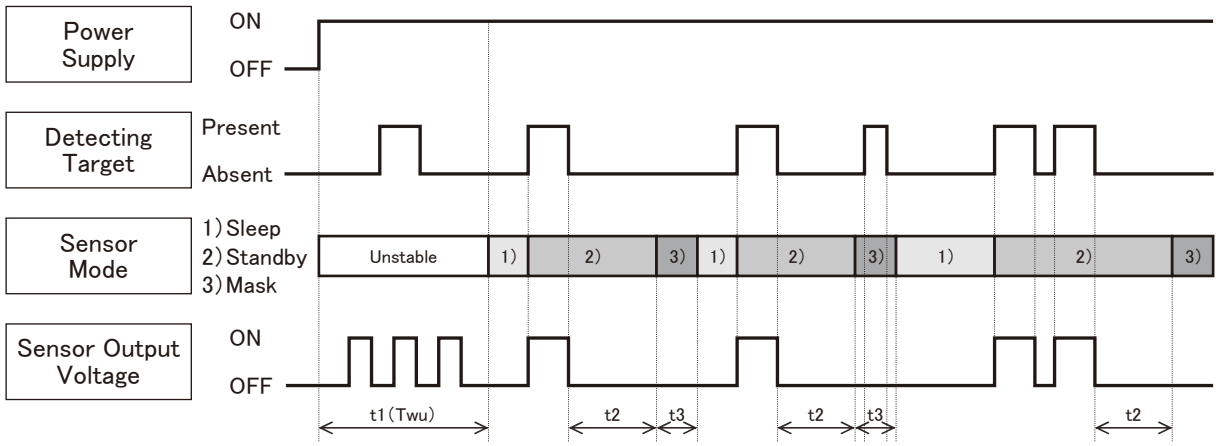
[Measuring conditions: Ambient temperature 25℃(77℉)]

Items		Symbol	1 μA type	2 μA type	6 μA type	Measured Conditions
Operating Voltage	Min.	Vdd	2.3V DC	2.3V DC	2.3V DC	—
	Max.		4.0V DC	4.0V DC	4.0V DC	—
Electrical Current Consumption (Sleep mode) (*4)	Avg.	Iw	1.0 μA	—	—	Iout=0
	Max.		1.6 μA			
Electrical Current Consumption (Standby mode) (*4)	Avg.	Iw	1.9 μA	1.9 μA	6.0 μA	Iout=0
	Max.		3.0 μA	3.0 μA	12.0 μA	
Output Current	Max.	Iout	100 μA	100 μA	100 μA	Vout≧Vdd−0.5
Output Voltage	Min.	Vout	Vdd−0.5VDC	Vdd−0.5VDC	Vdd−0.5VDC	—
Circuit Stability Time (When voltage is applied)	Avg.	Twu	25s	25s	—	—
	Max.		210s	210s	30s	

(*4)(*5) : "Sleep mode" or "Standby mode" is for 1μA current consumption version. Please refer to "TIMING CHART" below.

TIMING CHART

1. Digital output (1μA current consumption)



[Modes]

1) Sleep Mode : When the output is OFF. The electrical current consumption is approximately 1 μA.
2) Standby Mode : After the sensor's output reaches ON status, the sensor switches to standby mode. The electrical current consumption is ~ 1.9 μA . When the sensor's output returns to an OFF value after expiration of the "hold time", the sensor switches again to sleep mode.
3) Mask Mode : Time during which the output is forced to OFF after the end of the standby mode. (no detection is possible during this period.)

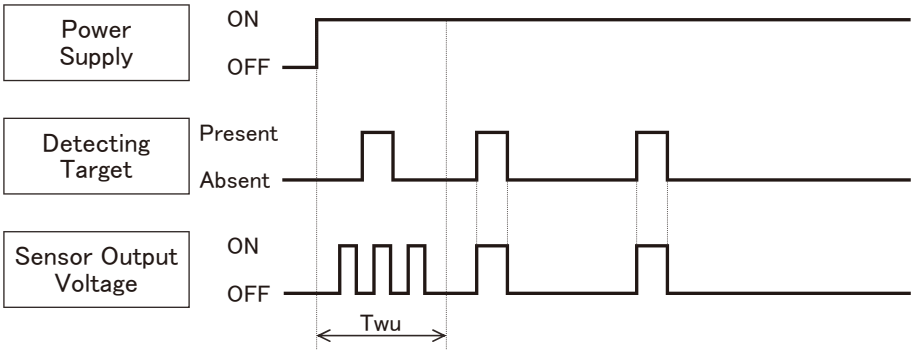
[Durations]

t1(Twu) : Circuit Stability Time: ~ 25s (typ.)
During this stage, the output's status is undefined (ON/OFF) and detection is not guaranteed.

t2 : Standby Hold Time: ~ 2.6s (typ.)
Depending on the number of output occurrences during standby mode, the hold time can differ (※1)

t3 : Mask Time ~ 1.3s (typ.)
During this stage, even if the sensor detects something, output will not switch ON.(※2)

2. Digital Output (2 μA and 6 μA current consumption)

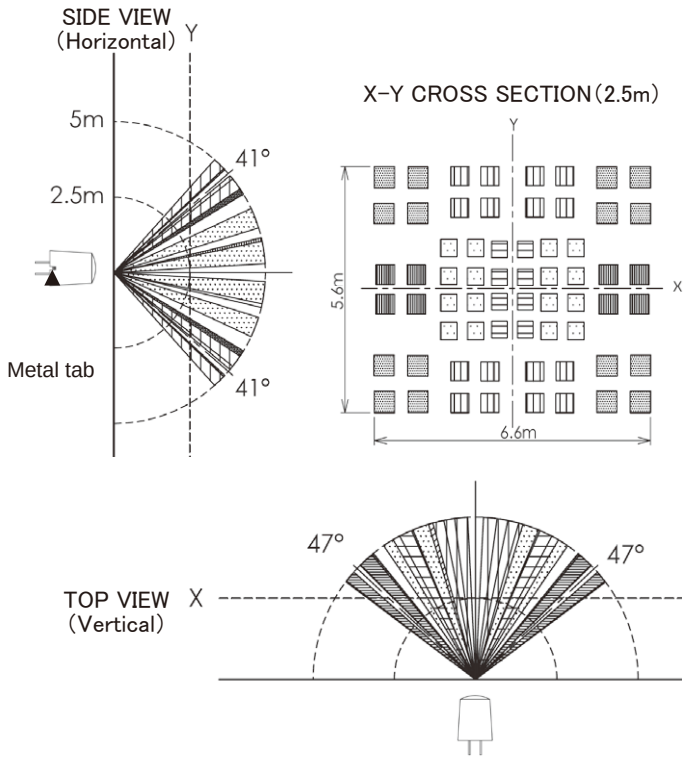


[Durations]

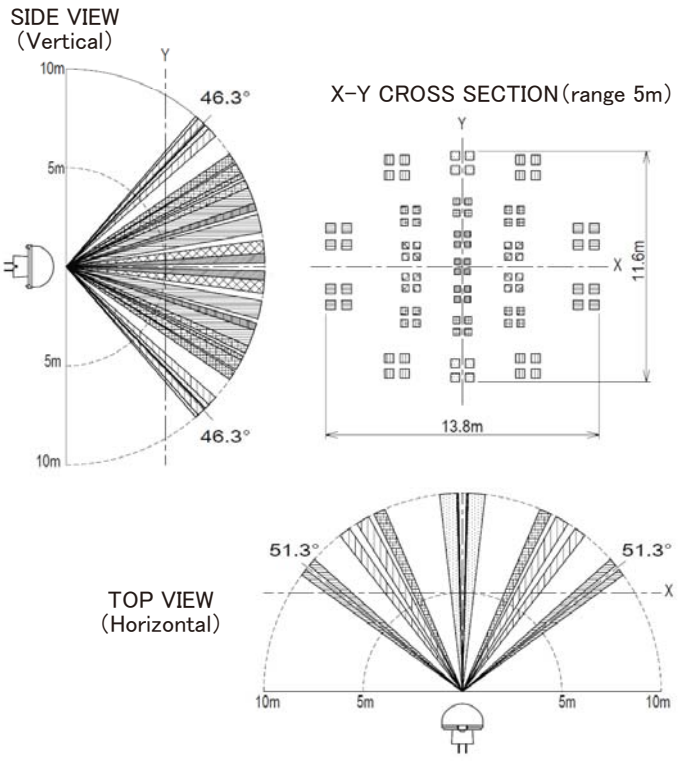
Twu : Circuit Stability Time (2 μA): ˜ 25s (typ.)
Circuit Stability Time (6 μA): ˜ 30s (max.)
During this stage, output status is undefined (ON/OFF) and detection is not guaranteed.

DETECTION PERFORMANCE

1) Standard detection type



2) Long Distance detection type



2. Detection Zone Notes

As shown on the diagram, the detection zone is polarized. If a target enters the detection zones + and – at the same time, the signals are respectively cancelled and detection could become impossible at maximum detection range. (Please refer to the detection area diagram for details)