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1. Simplified circuitry with fully integrated sensor design

Panasonic's proprietary high-density embedded circuit design eliminates external sensing circuits. Advantages include reduced development and design schedules.

2. Low curvature lens for product designs

Panasonic's lens formation technology achieves a semi-flat lens with a smooth surface and minimum protrusion from the device.
In addition to white and black lens options, pearl white is offered for design aesthetics.
(※Refer to "Dimensions" on page 5)

3. Robust design prevents false detection

PaPIRs sensing circuits are enclosed in a metallic can to minimize adverse effects of external electromagnetic fields. Examples include irradiated noise caused by cellular phones.

A high S/N ratio minimizes sensitivity to false tripping when operated under various environmental conditions.

APPLICATIONS >í? >õ>û>ú>ÿ

Commercial / Residential Equipment
- Lighting fixtures, Sensor switches,
- Video intercoms, Vending machines,
- Home automation control panels

Home Appliances (Energy Savings)
- Television and PC monitor
- Air conditioners, Air purifiers

4. Lead-free pyroelectric elements

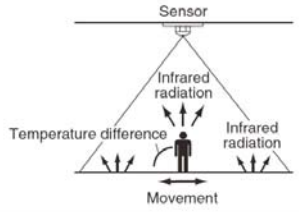
PaPIRs sensing elements contain lithium tantalate and are lead-free. Typical PIR sensing elements are ferroelectric ceramic (PZT) containing lead.

What is passive infrared type?

This sensor detects changes in infrared radiation which occur when there is movement by a person (or object) which is different in temperature from the surroundings.

① As this sensor detects temperature differences, it is well suited to detecting the motion of people by their body temperature.

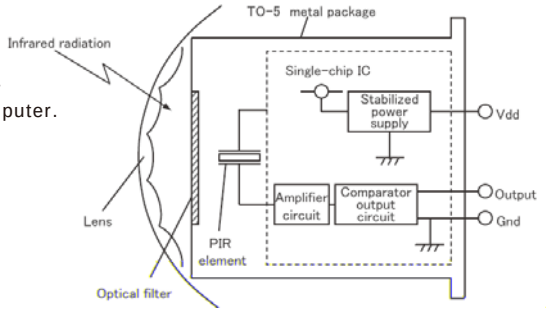
② Wide sensing area.



Compliance with RoHS Directive

Block Diagram *(Digital output circuit)*

Built-in amplifier and comparator connected directly to a microcomputer.



ORDERING INFORMATION

EKMC [ ] [ ] [ ] [ ] [ ] [ ]

Output: **1**: Digital

Current Consumption: **6**: 170@Ú

Detection Performance: **01**: Standard detection type
03: Long distance defection type

Lens Color:
1: White **2**: Black **3**: Pearl White

Lens Material: **1**: Polyethylene

Mounting: **1**: TO-5

PRODUCT TYPES

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PERFORMANCE

1. Detection Performance [Conditions for measuring: Ambient temperature: 25℃(77℉) Operating voltage: 5VDC]

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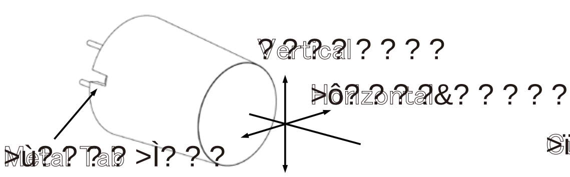

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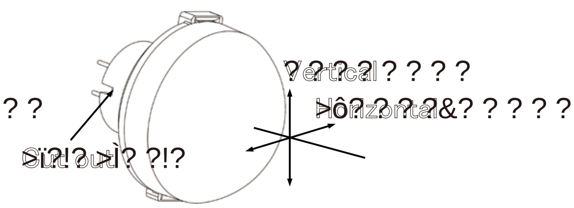

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2. Maximum Rated Values

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3. Electrical Characteristic [Conditions for Measuring: Ambient temperature 25℃(77℉)]

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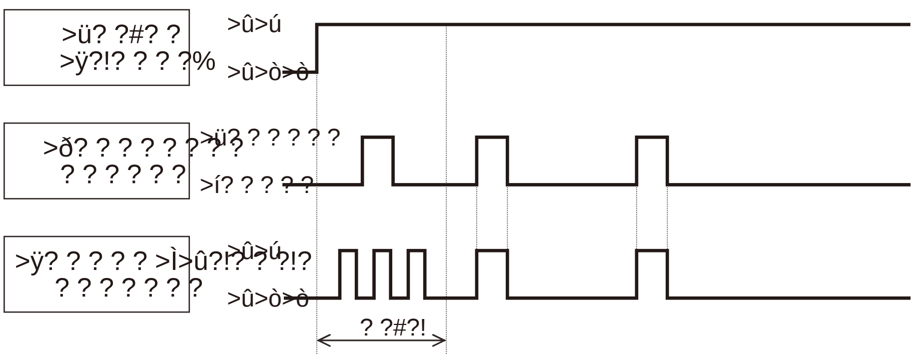
TIMING CHART

1. Digital Output



[Durations]

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DETECTION PERFORMANCE

1) Standard detection type

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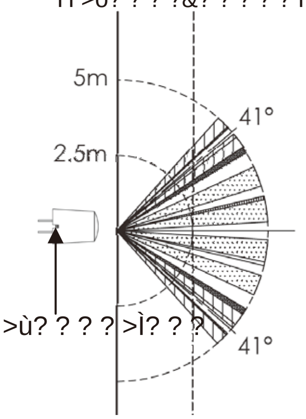

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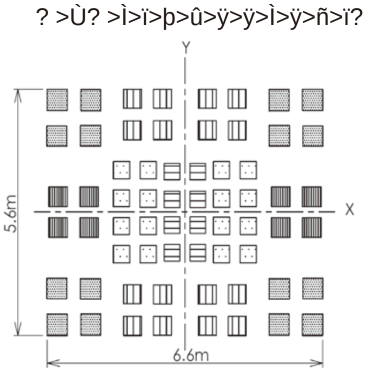

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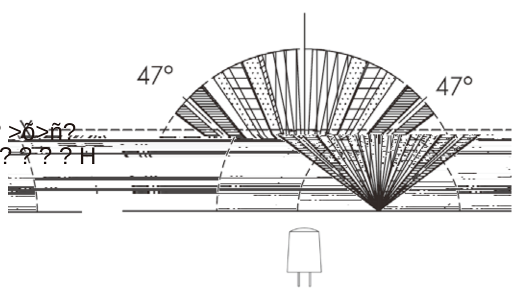

2) Long Distance detection type

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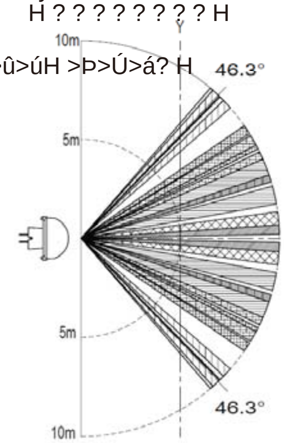

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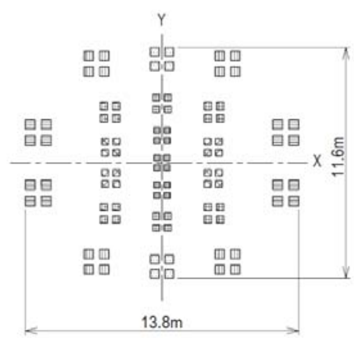

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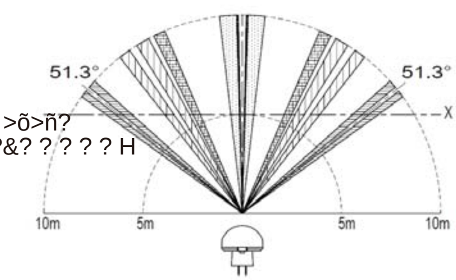
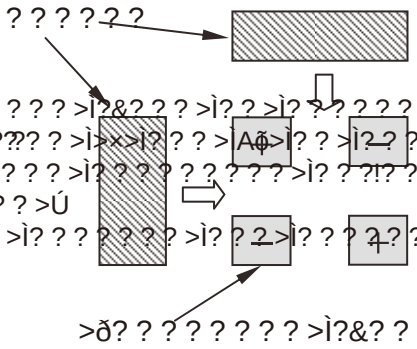
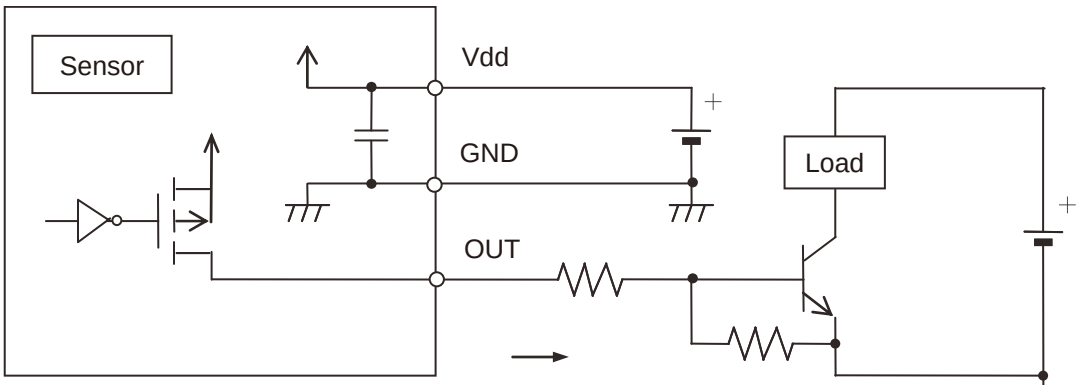


2. Notes Regarding the Detection Zone

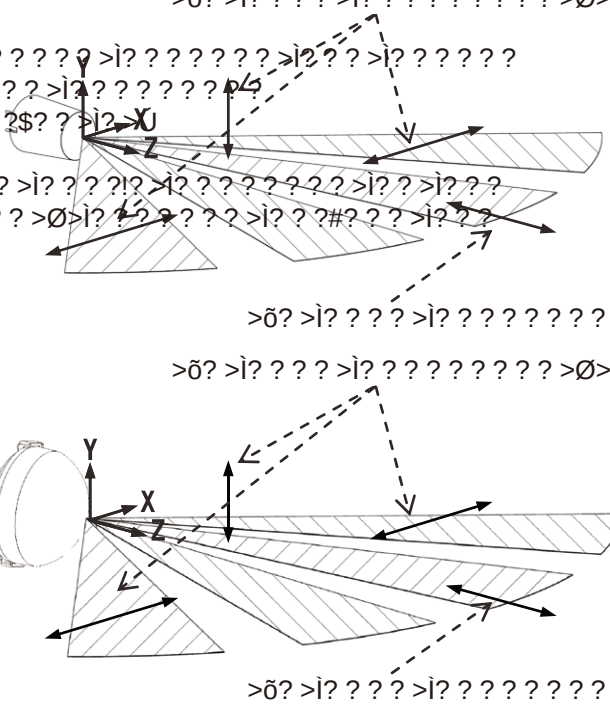


HOW TO USE

1. Wiring Diagram (Digital Output)



2. Moving Direction Concept



DIMENSION

1) Standard Detection type

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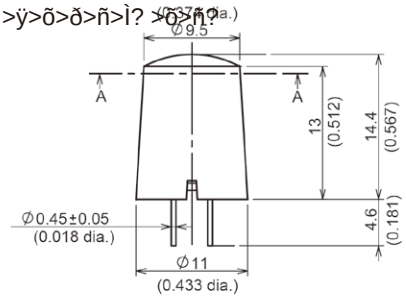
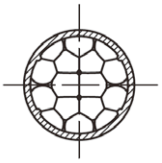


A-A Cross Sectional



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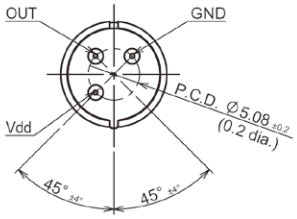

When designing your products

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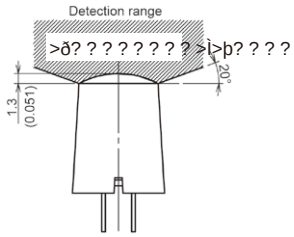
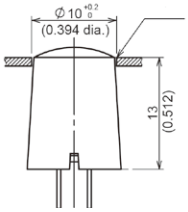


Recommended Hole Drilling Diameter



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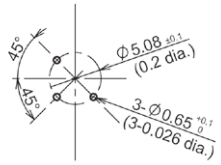
Recommended PCB Pattern Design



2) Long Distance Detection type

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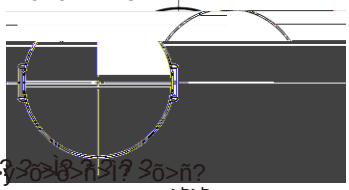

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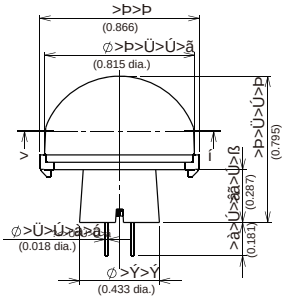
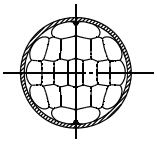


A-A Cross Sectional



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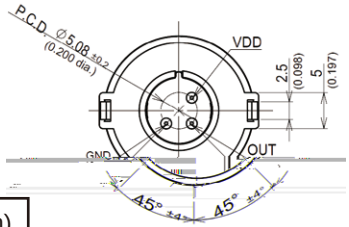

When designing your products

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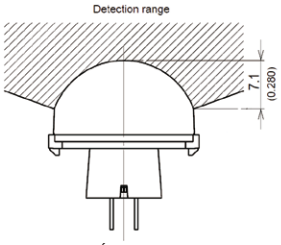
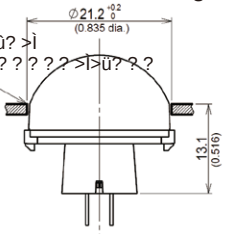


Recommended Hole Drilling Diameter



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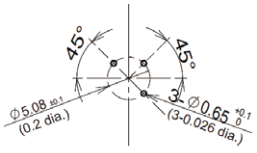
Recommended PCB Pattern Design



General Tolerance ±0.5mm (±0.020inch)

NOTES

1. Basic Principles

2. Other handling cautions

3. Ambient Environmental Conditions

4. External surge voltages

5. Power supply-superimposed noise

6. Drop damage

Safety Precautions

Head the following precautions to prevent injury or accidents.

1) Do not use these sensors under any circumstance in which the range of their ratings, environment conditions or other specifications are exceeded. Using the sensors in any way which causes their specifications to be exceeded may generate abnormally high levels of heat, emit smoke, etc., resulting in damage to the circuitry and possibly causing an accident.

2) Our company is committed to making products of the highest quality and reliability. Nevertheless, all electrical components are subject to natural deterioration, and durability of a product will depend on the operating environment and conditions of use. Continued use after such deterioration could lead to overheating, smoke or fire. Always use the product in conjunction with proper fire-prevention, safety and maintenance measures to avoid accidents, reduction in product life expectancy or break-down.

3) Before connecting, check the pin layout by referring to the connector wiring diagram, specifications diagram, etc., to verify that the connector is connected properly. Mistakes made in connection may cause unforeseen problems in operation, generate abnormally high levels of heat, emit smoke, etc., resulting in damage to the circuitry.

4) Do not use any motion sensor which has been disassembled or remodeled.

5) Failure modes of sensors include short-circuiting, open-circuiting and temperature rises. If this sensor is to be used in equipment where safety is a prime consideration, examine the possible effects of these failures on the equipment concerned, and ensure safety by providing protection circuits or protection devices.
Example :
- Safety equipments and devices
- Traffic signals
- Burglar and disaster prevention