

SPECIFICATION FOR APPROVAL

MODEL : RE200BE-P

PYROELECTRIC INFRARED SENSOR

**CUSTOMER:
APPROVED BY:
DATE:**

TYPE: RE200BE-P

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CHART:

EDITION: A

TYPE OF SENSOR

GENERAL PURPOSE DUAL ELEMENTS(RESISTANCE TO
ELECTROMAGNETIC INTERFERENCE TYPE.)

PHYSICAL CONFIGURATION

- | | |
|------------------------|--------------------------------|
| (1) PACKAGE | TO-5 METAL CAN
SEE FIGURE A |
| (2) SENSITIVE AREA | 2.3×1.0 mm |
| (3) LEAD CONFIGURATION | SEE FIGURE B,C |

ELECTRICAL CHARACTERISTICS (AT $25 \pm 5^\circ\text{C}$)

- | | |
|---------------------------|---|
| (1) CIRCUIT CONFIGURATION | SEE FIGURE D |
| (2) SUPPLY VOLTAGE | 2.2~15 V DC (Drain-Ground)
(Rs: 470K Ω) |
| (3) OFFSET VOLTAGE | 0.3~1.4 V |
| (4) SIGNAL OUTPUT | Min 3.0 Vp-p
TYP 4.0 Vp-p (Source-Ground)
(BLACK BODY 420K; CHOPPER
FREQUENCY 1Hz: MEASUREMENT
AMP. 0.3~3.0Hz、72.5db(AT 1Hz))
SEE FIGURE F |
| (5) BALANCE OUTPUT | Max 15% (Source-Ground) (B/Sa+Sb)
(BLACK BODY 420K; CHOPPER
FREQUENCY 1Hz: MEASUREMENT
AMP. 0.3~3.0Hz、72.5db(AT 1Hz))
SEE FIGURE G |

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(6) NOISE OUTPUT	Max 180mV TYP 70 mV (Source-Ground) (MEASUREMENT AMP. 0.3~3.0Hz、 72.5db(AT 1Hz)) SEE FIGURE H
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OPTICAL CHARACTERISTICS

(1) FIELD OF VIEW	138° × 125° SEE FIGURE I
(2) SPECTRAL RESPONSE	Si Filter Cuton 5.0±0.5 μm Thickness 0.5mm Average T > 70% Pass Band 7.0 ~ 14 μ

ENVIRONMENTAL REQUIREMENTS

(1) OPERATING TEMPERATURE	−30~+70 °C
(2) STORAGE TEMPERATURE	−40~+80 °C

※ NOTES

1. DESIGN RESTRICTIONS/PRECAUTIONS

FOR OUTDOOR APPLICATIONS , BE SURE TO APPLY SUITABLE SUPPLEMENTARY OPTICAL FILTER AND DRIP-PROOF 。 ANTI-DEW CONSTRUCTION 。 THIS SENSOR IS DESIGNED FOR INDOOR USE 。 IN CASES WHERE SECONDRAY ACCIDENTS DEE TO OPERATION FAILURE OR MALFUNCTIONS CAN BE ANTICIPATED 。 ADD A FAIL SAFE FUNCTION TO THE DESIGN。

2. USAGE RESTRICTIONS/PRECAUTIONS

TO PREVENT SENSOR MALFUNCTIONS, OPERATIONAL, FAILURE OR ANY DETERIORATION OF ITS CHARACTERISTICS. DO NOT USE THIS SENSOR IN FOLLOWING, OR SIMILAR, CONDITIONS.

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- A. IN RAPID ENVIRONMENTAL TEMPERATURE CHANGES.
- B. IN STRONG SHOCK OR VIBRATION. CUSTOMERS TO USE FALL PROTECTION, CERAMIC CHIP FRAGILE.
- C. IN A PLACE WHERE THERE ARE OBSTRUCTING MATERIALS (GLASS.FOG.ETC) THROUGH WHICH INFRARED RAYS CANNOT PASS WITHIN DETECTION AREA.
- D. IN FLUID. CORROSIVE GASES AND SEA BREEZE.
- E. CONTINUAL USE IN HIGH HUMIDITY ATMOSPHERE.
- F. EXPOSED TO DIRECT SUN LIGHT OR HEADLIGHTS OF AUTOMOBILES.
- G. EXPOSED TO DIRECT WIND FROM A HEATER OR AIR CONDITIONS.
- H. PRODUCTION PROCESS, NOT THE ACCUMULATION OF STACKED PCB BOARD, THE FILTER IS EASILY DAMAGED.

3. ASSEMBLY RESTRICTIONS/PRECAUTIONS

SOLDERING-----

- A. USE SOLDERING IRONS WHEN SOLDERING.
- B. AVOID KEEPING PINS OF THIS HOT FOR A LONG TIME AS EXCESSIVE HEAT MAY CAUSE DETERIORATION OF ITS QUALITY.(E.G. WITHIN 5 SEC. AT 350°C)
- C. AVOID STATIC ELECTRICITY OR STRONG ELECTROMAGNETIC WAVES. RECOMMENDED TO WEAR A SHIELD RING.

WASHING-----

- A. BE SURE TO WASH OUT ALL FLUX AFTER SOLDERING AS REMAINDER MAY CAUSE MALFUNCTIONS.
- B. USE A BRUSH WHEN WASHING. WASHING WITH AN ULTRASONIC CLEANER MAY CAUSE OPERATIONAL FAILURE.

4. HANDLING AND STORAGE RESTRICTIONS/PRECAUTIONS

TO PREVENT SENSOR MALFUNCTIONS, OPERATIONAL FAILURE. APPEARANCE DAMAGE OR ANY DETERIORATION OF ITS CHARACTERISTICS. DO NOT EXPOSE THIS SENSOR TO THE FOLLOWING OR SIMILAR, HANDLING AND STORAGE CONDITIONS.

- A. VIBRATION FOR A LONG TIME.
- B. STRONG SHOCK.
- C. STATIC ELECTRICITY OR STRONG ELECTROMAGNETIC WAVES.
- D. HIGH TEMPERATURE AND HUMIDITY FOR A LONG TIME.
- E. CORROSIVE GASES OR SEA BREEZE.
- F. DIRTY AND DUSTY ENVIRONMENTS THAT MAY CONTAMINATE THE OPTICAL WINDOWS.

SENSOR TROUBLES RESULTING FROM MISUSE. INAPPROPRIATE HANDLING OR STORAGE ARE NOT THE MANUFACTURER ' S RESPONSIBILITY.

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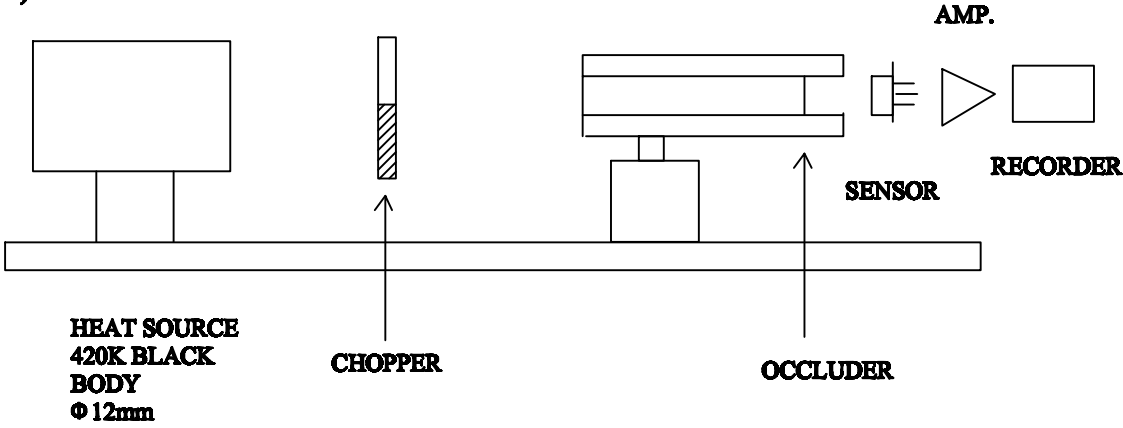
Technical drawing of a circular component. The overall diameter is $\Phi 9.2 \pm 0.2$. A central rectangular area has a width of 4.0 and contains two dashed rectangles labeled A and B. Above these rectangles are three vertical dimension lines, each labeled 1.0. To the left of the main circle, there is a smaller circle with a diameter of 3.0 and a horizontal distance of 2.3 from the center of the main circle.

Figure 1 Schematic diagram of the device structure. The diagram shows a circular device with a central drain (1), a source (2), and a gate (3). The gate is a ring with a width of 5.08 ± 0.2 μm . The device is tilted at a 45° angle. A legend indicates: 1.DRAIN, 2.SOURCE, 3.GATE.

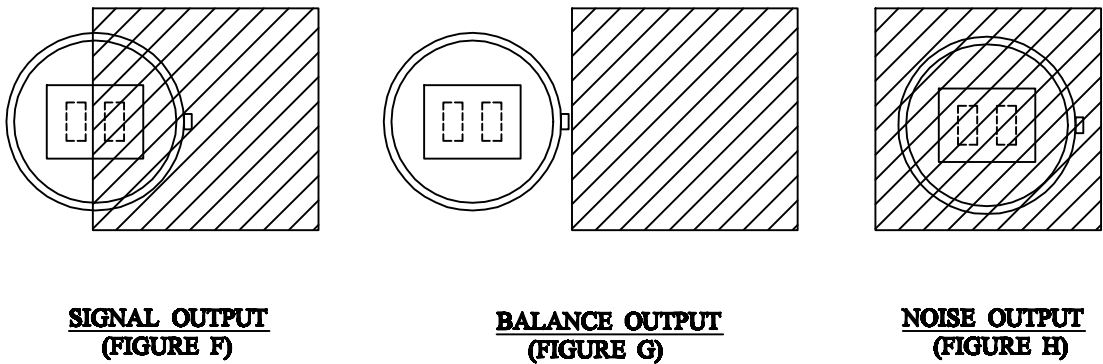
The diagram shows a sensor module with three IR beams entering from the left. The sensor array is connected to a +10V supply and ground. The sensor output is connected to an op-amp circuit. The op-amp has a feedback resistor R_s labeled $47K\Omega$. The op-amp output is connected to a load resistor.

ASSEMBLY:

**TEST DIAGRAM
(FIGURE E)**



OCCLUDER POSITION



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ASSEMBLY: