

SPECIFICATION FOR APPROVAL

MODEL : GRC-2-P

PYROELECTRIC INFRARED SENSOR

**CUSTOMER:
APPROVED BY:
DATE:**

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CHART:

EDITION: A

NICERA SENSOR CO.,LTD

TYPE OF SENSOR

GENERAL PURPOSE DUAL ELEMENTS

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±5°C)

- | | |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) CIRCUIT CONFIGURATION | SEE FIGURE D |
| (2) SUPPLY VOLTAGE | 3~15 V DC (Drain-Ground) (Rs: 47K Ω) |
| (3) OFFSET VOLTAGE | 0.4~1.1 V TYP 0.7 V (V _D =10V, Rs=47K Ω) |
| (4) SIGNAL OUTPUT | Min 3.0 Vp-p TYP 4.5Vp-p (Source-Ground) (BLACK BODY 420K; CHOPPER FREQUENCY 1Hz: MEASUREMENT AMP. 0.3~3.0Hz、72.5db(AT 1Hz)) SEE FIGURE F |
| (5) SENSITIVITY 420K, 1Hz | 3800 V/W |
| (6) DETECTIVITY (420K,1Hz,1Hz) | 1.6×10 ⁸ cmHz ^{1/2} /W |
| (7) BALANCE OUTPUT | Max 20% (Source-Ground) B/S (BLACK BODY 420K; CHOPPER FREQUENCY 1Hz: MEASUREMENT AMP. 0.3~3.0Hz、72.5db(AT 1Hz)) SEE FIGURE G |

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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 ELECTRICITYOR STRONG ELECTROMAGNETIC WAVES. RECOMMENDED TO WEAR A SHIELD RING.

WASHING-----

- A. BE SURE TO WASH OUT ALL FLUX AFTER SOLDERING AS RENAINDER 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 ELECTRICITYOR 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.

TYPE: GRC-2-P

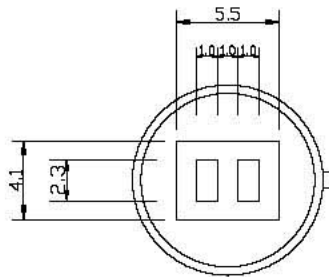
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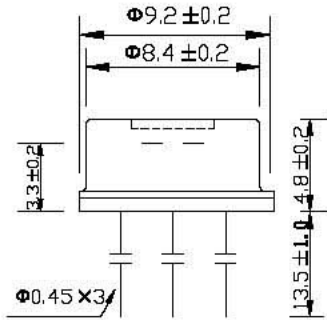
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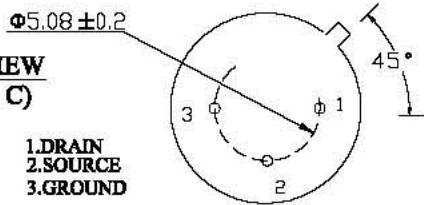
**TOP VIEW
(FIGURE A)**



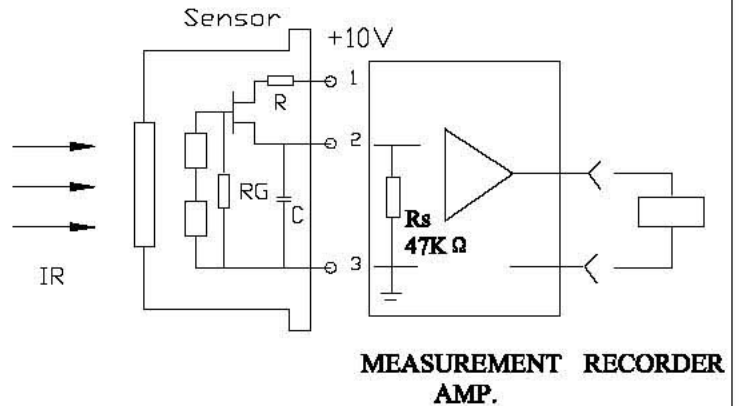
**SIDE VIEW
(FIGURE B)**



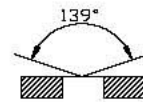
**BASE VIEW
(FIGURE C)**



**CIRCUIT CONFIGURATION
(FIGURE D)**

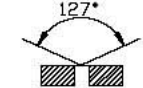


X



**FIELD OF VIEW
(FIGURE I)**

Y



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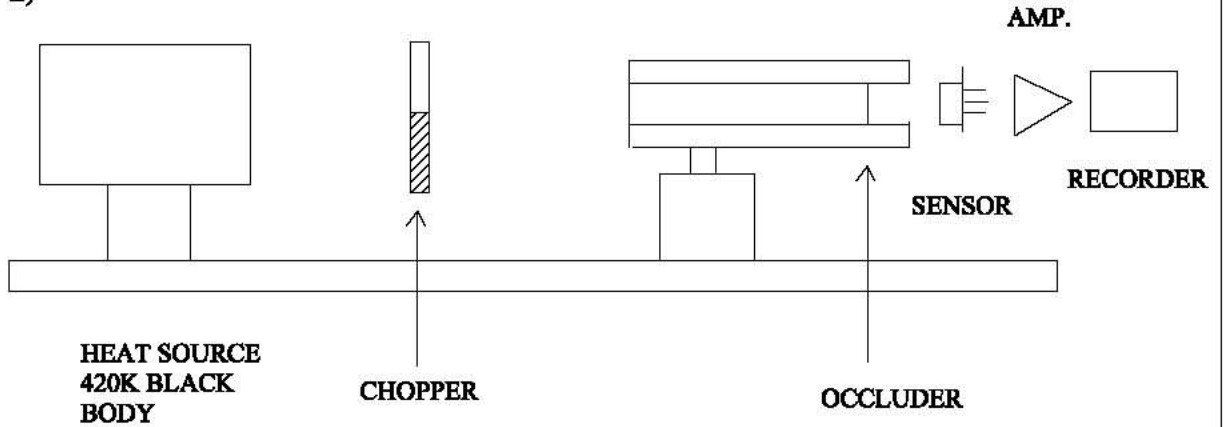
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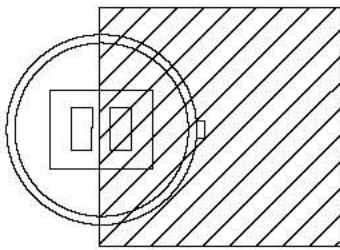
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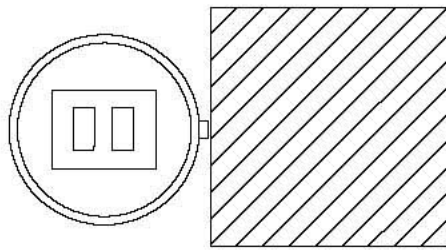
**TEST DIAGRAM
(FIGURE E)**



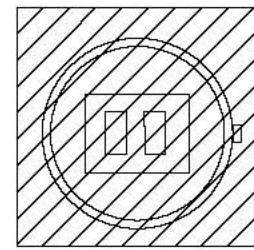
OCCLUDER POSITION



**SIGNAL OUTPUT
(FIGURE F)**



**BALANCE OUTPUT
(FIGURE G)**



**NOISE OUTPUT
(FIGURE H)**

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