

## **SPECIFICATION FOR APPROVAL**

**MODEL : S305-B-P**

**PYROELECTRIC INFRARED SENSOR**

**CUSTOMER:  
APPROVED BY:  
DATE:**

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CHART:

EDITION: A

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## TYPE OF SENSOR

GENERAL PURPOSE DUAL ELEMENTS

## PHYSICAL CONFIGURATION

- |                        |                |
|------------------------|----------------|
| (1) PACKAGE            | TO-5 METAL CAN |
|                        | SEE FIGURE A   |
| (2) SENSITIVE AREA     | 2.0×1.0 mm     |
| (3) LEAD CONFIGURATION | SEE FIGURE B,C |

## ELECTRICAL CHARACTERISTICS (AT 25±5°C)

- |                                |                                                                                                                                                           |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) CIRCUIT CONFIGURATION      | SEE FIGURE D                                                                                                                                              |
| (2) SUPPLY VOLTAGE             | 2.2~15 V DC (Drain-Ground)<br>(Rs: 47K Ω)                                                                                                                 |
| (3) OFFSET VOLTAGE             | 0.4~1.1 V<br>TYP 0.7 V (V <sub>D</sub> =10V, Rs=47K Ω)                                                                                                    |
| (4) SIGNAL OUTPUT              | Min 2.5 Vp-p<br>TYP 3.8 Vp-p (Source-Ground)<br>(BLACK BODY 420K; CHOPPER<br>FREQUENCY 1Hz: MEASUREMENT<br>AMP. 0.3~3.0Hz、72.5db(AT 1Hz))<br>SEE FIGURE F |
| (5) SENSITIVITY 420K, 1Hz      | 3200 V/W                                                                                                                                                  |
| (6) DETECTIVITY (420K,1Hz,1Hz) | 1.45×10 <sup>8</sup> cmHz <sup>1/2</sup> /W                                                                                                               |
| (7) BALANCE OUTPUT             | Max 20% (Source-Ground)<br>(BLACK BODY 420K; CHOPPER<br>FREQUENCY 1Hz: MEASUREMENT<br>AMP. 0.3~3.0Hz、72.5db(AT 1Hz))<br>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.

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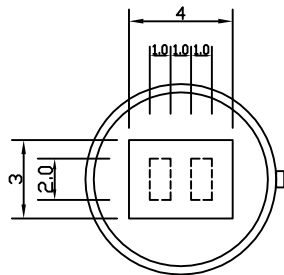
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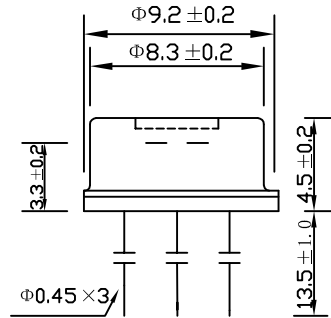
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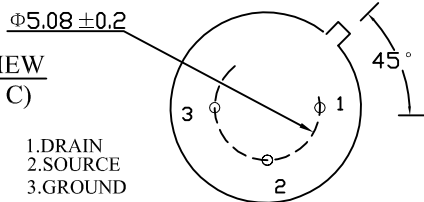
TOP VIEW  
(FIGURE A)



SIDE VIEW  
(FIGURE B)

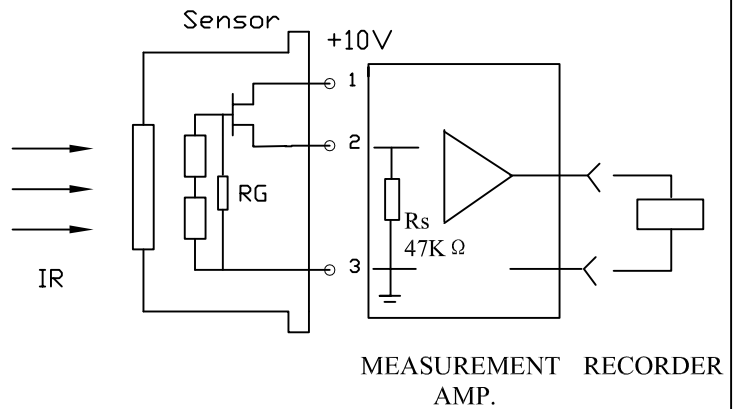


BASE VIEW  
(FIGURE C)



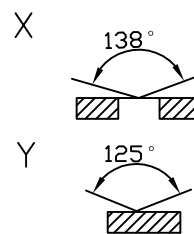
- 1.DRAIN
- 2.SOURCE
- 3.GROUND

CIRCUIT CONFIGURATION  
(FIGURE D)



MEASUREMENT RECORDER  
AMP.

FIELD OF VIEW  
(FIGURE I)



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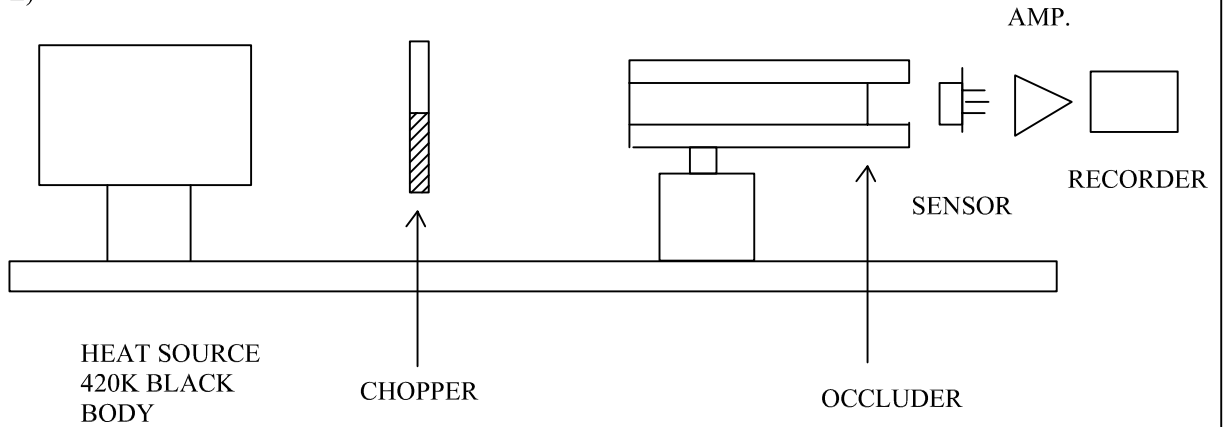
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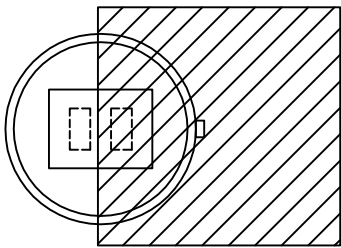
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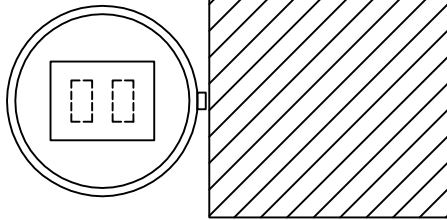
TEST DIAGRAM  
(FIGURE E)



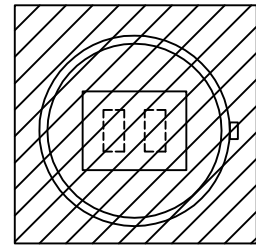
OCCLUDER POSITION



SIGNAL OUTPUT  
(FIGURE F)



BALANCE OUTPUT  
(FIGURE G)



NOISE OUTPUT  
(FIGURE H)

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