DPS101B

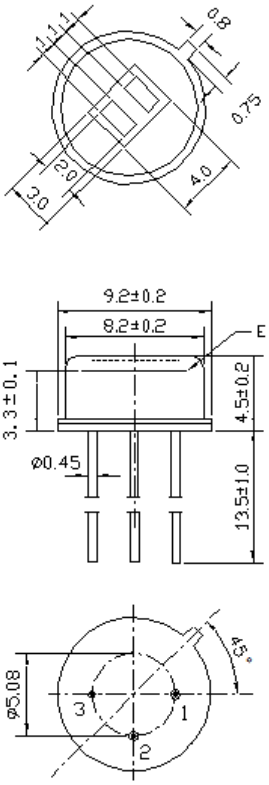
Pyroelectric Infrared Sensor

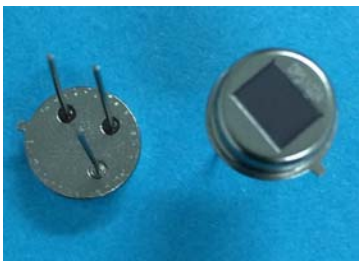
Data Sheet

Part No.：DPS101B

1. Package Dimension

TO-5 Unit: mm





Pin No.	Function
Pin 1	Drain
Pin 2	Source
Pin 3	Ground

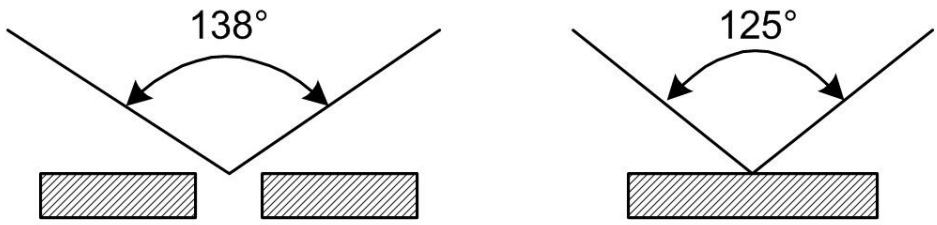
2. Marking

DPS101B

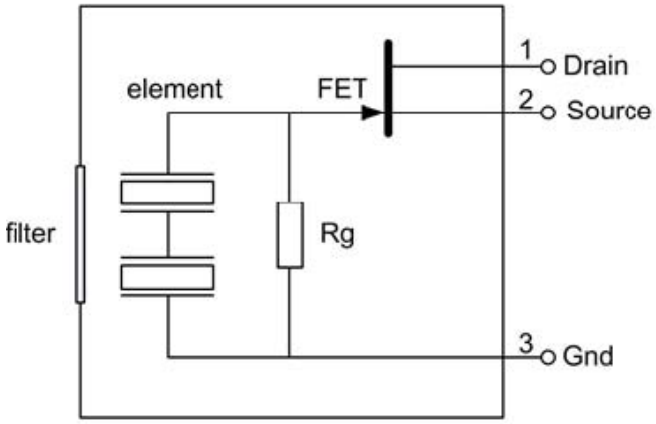
1. Black Ink or Laser Marking
2. D: Manufacture's logo
3. PS: Pyroelectric Infrared Sensor
4.101B: Model Code

3. Field of View

Silvan Chip Electronics Tech.Co.,Ltd.
Address: Fl.16 FuChang Building,Binhe Rd,Shenzhen,China
Phone: 86-0755-88291843 88304213 **Fax** ： 86-0755-88290509
Email: jja@sc-tech.cn **Http://** www.sc-tech.cn



4. Equivalent Circuit



5. Performance

Item	Spec.
Element Size	2mm×1mm, 2 elements
Window Size	4mm×3mm
Spectral Response	5-14μm
Transmission	⩾75%
Signal Output (Vp-p)	⩾3500mV
Responsivity	⩾3300V/W
Detectivity	$\geqslant 1.4\times 10^{8}$cmHz$^{1/2}$/W
Noise (Vp-p)	<70mV
Offset Voltage	0.2-1.5V
Supply Voltage	2.2-15V
Operation Temperature	-30℃ to +70℃
Storage Temperature	-40℃ to +80℃

6. Test Circuit

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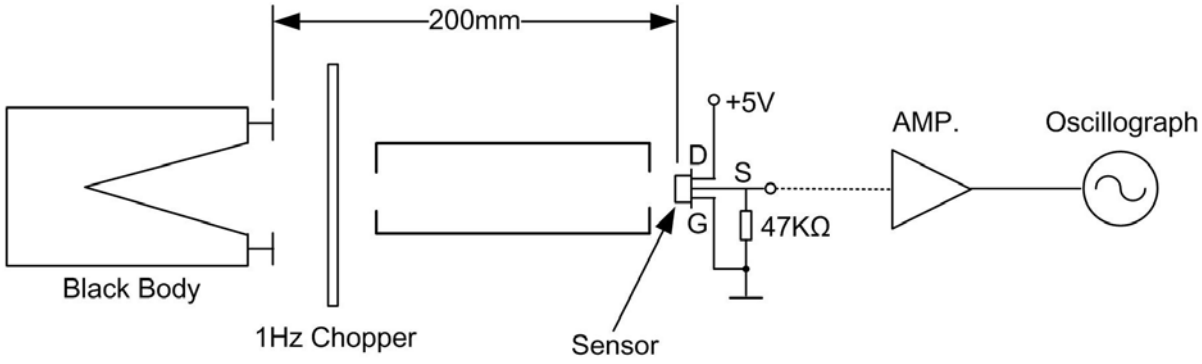
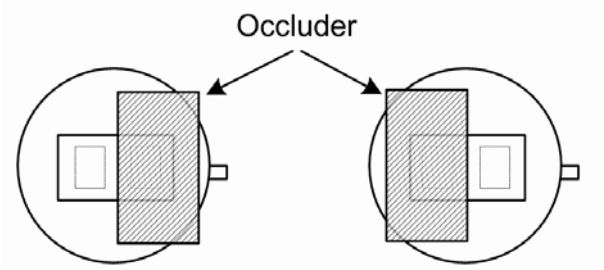
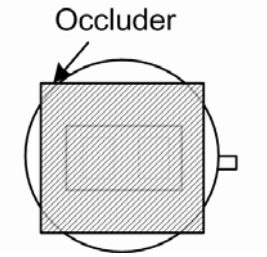


Note: 1) ambient temperature: 25℃
2) black body source temperature: 420K（@147℃）
3) chopper frequency: 1Hz
4) amplifier gain: 72.5dB



Signal Output



Noise Output

7. Reliability

7.1 Resistance to Soldering heat:

The sensors shall remain within the electrical specifications after it dipped in the solder at 260℃±5℃ for 10±1 seconds,1.5mm below stem.

7.2 Thermal Shock:

The sensors shall remain within the electrical specifications after being kept at the condition of heat cycle conditions: TA=-10℃, TB=50℃, t1=t2=30min, switch time≤3min & cycle time : 100 times, recovery time : 2h±0.5h.

7.3 The Temperature Storage:

7.3.1 High Temperature Storage: The sensors shall remain within the electrical specifications after being kept at the 85℃±2℃for 500 hours, recovery time : 2h±0.5h.

7.3.2 Low Temperature Storage: The sensors shall remain within the electrical specifications after being kept at the –40℃±3℃for 500 hours, recovery time : 2h±0.5h.

7.4 Humidity Test:

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The sensors shall remain within the electrical specifications after being kept at the condition of ambient temperature 60℃±2℃, and 90~95% RH for 500 hours.

7.5 Hermetic Seal

The sensors are sealed to pass a He-leakage test with maximum leak rate of 10^{-8} mbar.l.s^{-1}.

7.6 Vibration Fatigue:

The sensors shall remain within the electrical specifications after loaded vibration at 10~55Hz, amplitude 1.5mm, X, Y, Z, direction, for 2 hours.

7.7 Terminal Strength

The force 5 seconds of 9.8N is applied to each terminal.

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