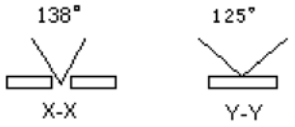
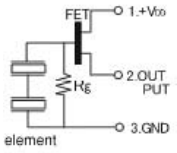
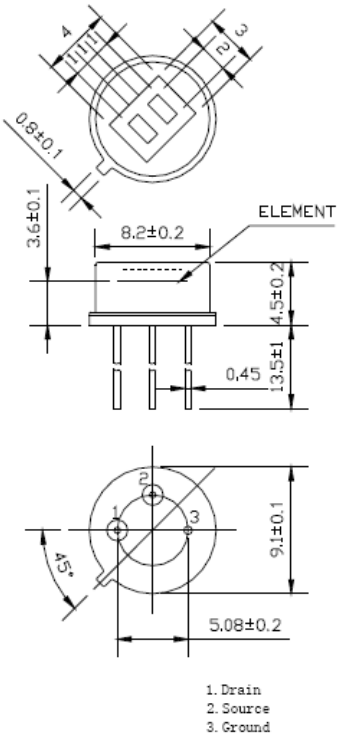
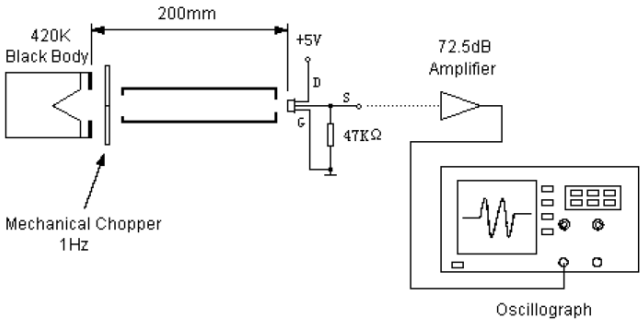
D203S Standard specifications and dimensions

Recommended Model	D203S
Encapsulation Type	TO-5
IR Receiving Electrode	2×1mm, 2 elements
Window Size	4×3mm
Spectral Response	5-14μm
Transmittance	≥75%
Signal Output [Vp-p]	≥3500mV
Sensitivity	≥3300V/W
Detectivity (D*)	≥1.4 ×10$_8$ cmHz$_{1/2}$/W
Noise[Vp-p]	<70mV
Output Balance	<10%
Offset Voltage	0.3-1.2V
Supply Voltage	3-15V
Operating Temp.	-30-70ºC
Storage Temp.	-40-80ºC
Field of View Equivalent Circuit	
Equivalent Circuit	



D203S Test Method



D203S Test conditions

♦ Ambient temperature 25ºC ♦ Black-body temperature 420K(147˚C) ♦ Modulating frequency 1 Hz, 0.3-3.5Hz △f, ♦ 72.5 dB Amplifier

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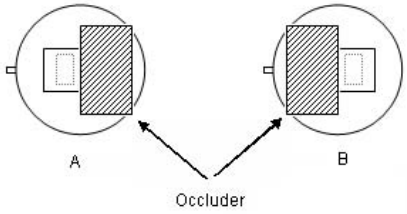
Email: jja@sc-tech.cn **Http://** www.sc-tech.cn



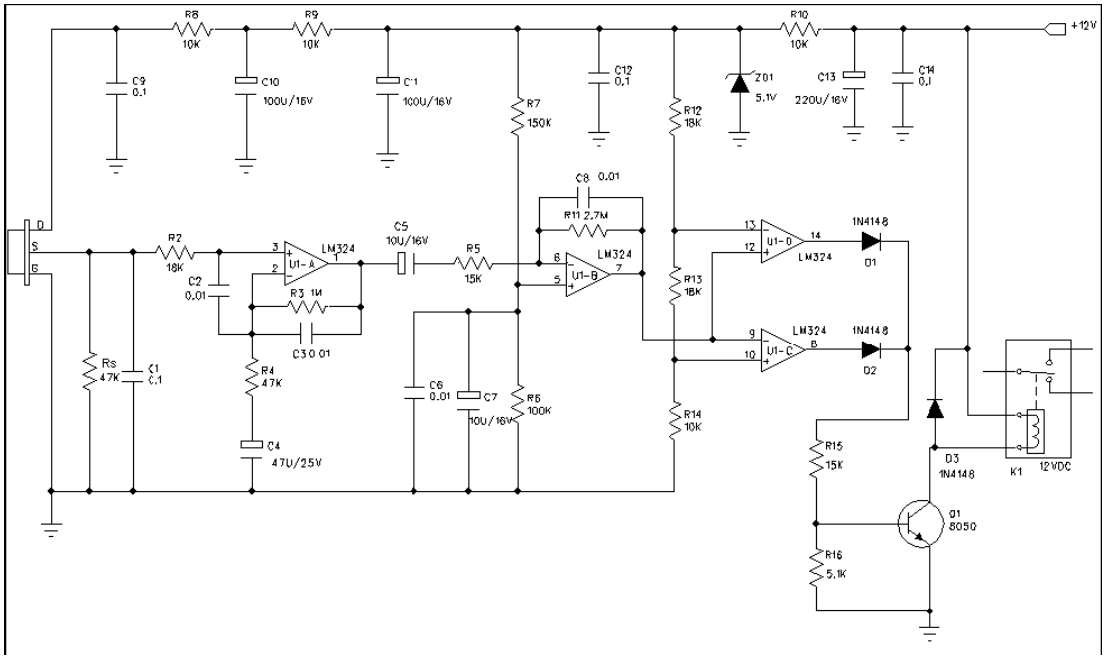
The sensitivity balance of dual element sensor is calculated through testing the sensitivity (single signal output voltage) of each element and using the following formula:

Balance = $|V_A-V_B|/(V_A+V_B) \times 100\%$

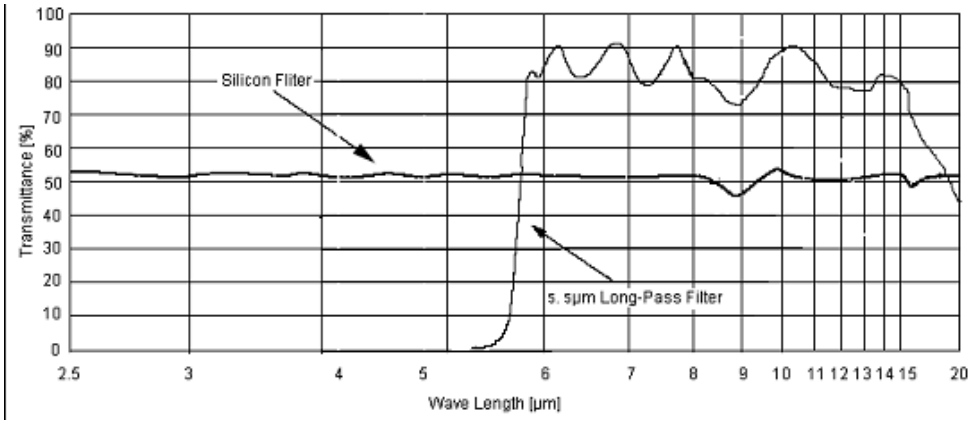
V_A = Sensitivity of side A (mVp-p)

V_B = Sensitivity of side B (mVp-p)

D203S Typical Application



D203S Spectral Response of Window Materials



Notice:

The above curve is the typical figure of 5.5μm pass IR filter, the curve is the average value of IR transmittance, the window's substrate is vacuum-coated with semiconductor material.

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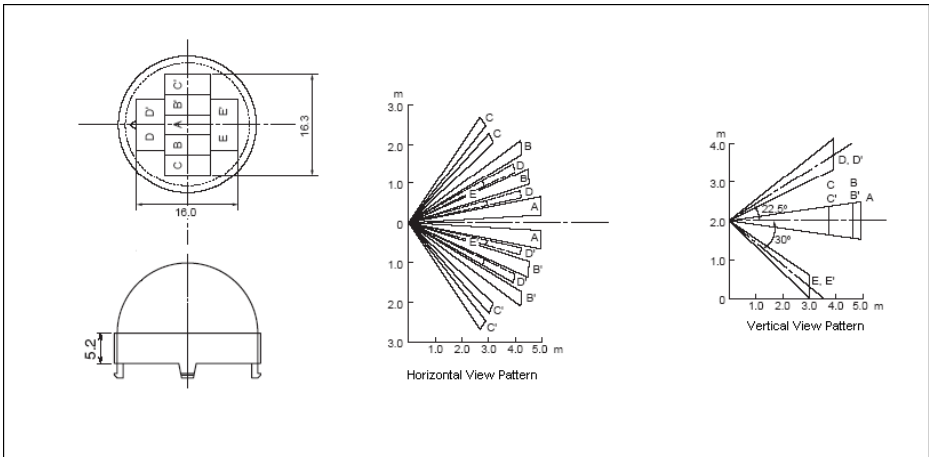
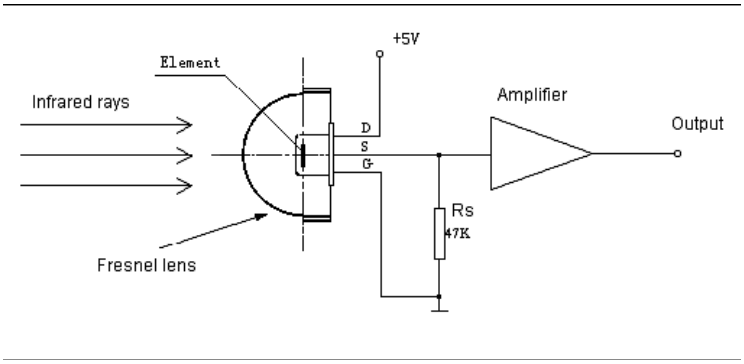
D203S Fresnel Lens for Human Body Detection





D203S Directions for Use

- Pay attention to the mounting direction of the sensor's element and the size of element ichnography. Combining with focus of Fresnel lens can achieve a optimal optics design.
- The ex-factory parameter of sensor is gained by testing in the condition of standard Black Body and the relevant circuit after one minute steadying-time.
- The detecting distance of sensor is a multidimensional function, consisting of ambient temperature, temperature of moving target , target distance of Fresnel Lens', ambient humidity , amplifier gain and comparison voltage.
- The welding shall be made at 4mm above as per the recommendation for lead wire of sensor seat, and the welding should be completed in the shortest possible time.
- Do not touch the window by hand and the hard things directly.
- Strong shake and static should be avoided.
- This products are packed with the environmental protection material ,and the sensors' surface has been covered specially with OHK anti-erode material, 100pcs per small package ,3000pcs per large package.

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