

AOSONG

PIR Sensor Module

AG629 Specification



2. Product overview

AG629 is an automatic control module based on infrared technology. It adopts the original imported sensor design with high sensitivity, strong reliability and ultra-low voltage working mode. It is widely used in all kinds of automatic induction electrical equipment. This product has the advantages of excellent quality, super fast response, strong anti-EMI ability, high cost performance and used in a various applications with high and low voltage output mode.

Physical Characteristics

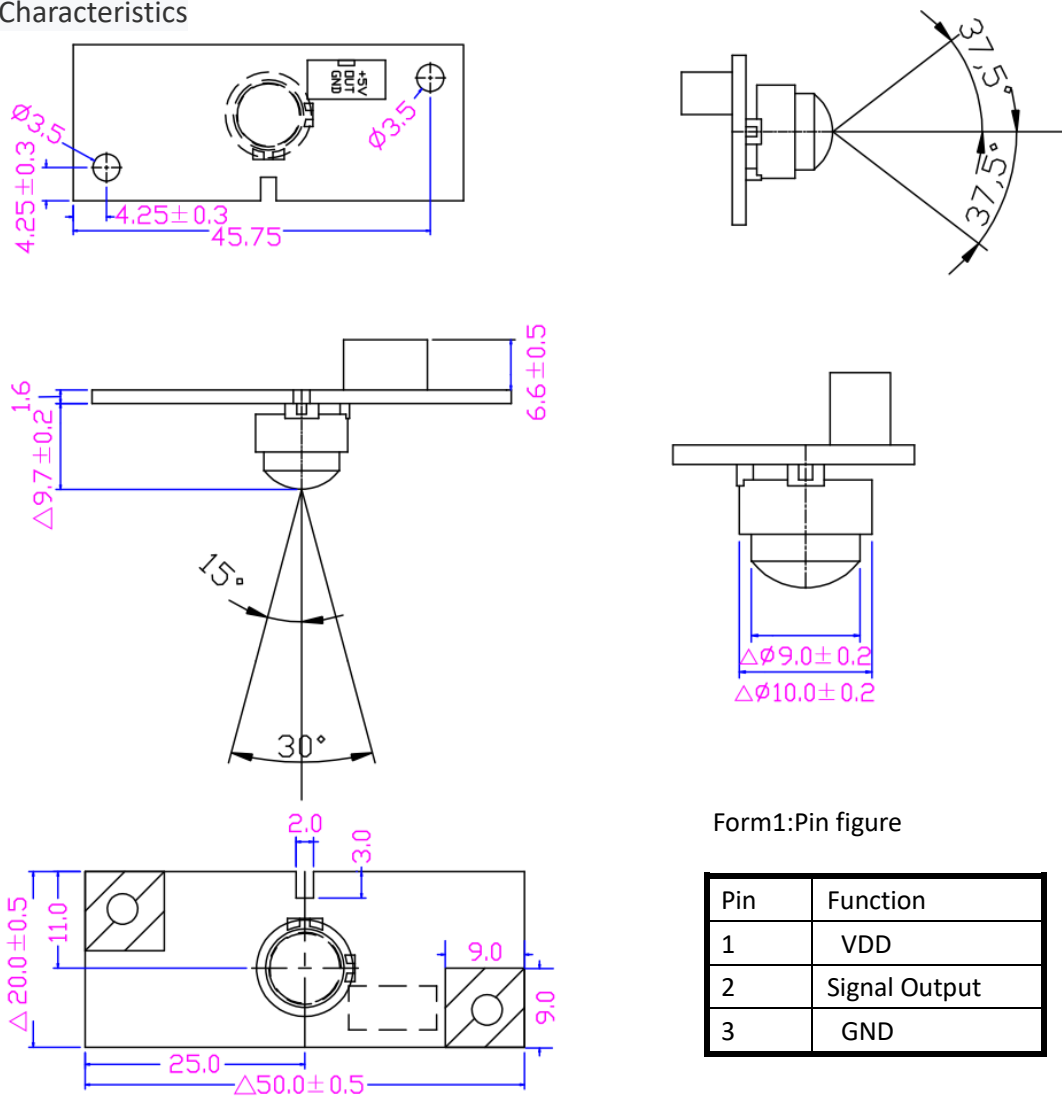


Figure 1 Product dimension diagram (unit: mm)

3.Product parameters

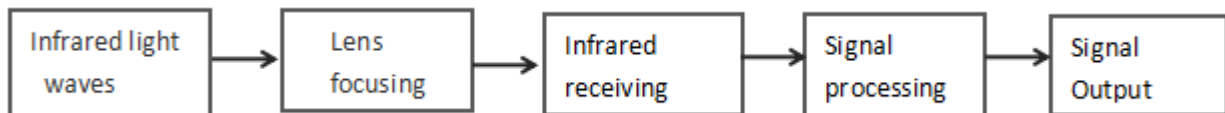
Supply Voltage (VDD) : Direct Current 3.0-5.5V
quiescent current (IDD) : <1mA
Output (VOUT): High VDD/Low 0V
Operating Temperature(Topr): -30℃~+70℃
Relative Humidity (RH) : <95% (Non-condensing)
Storage Temperature(Tstg): -30℃~+50℃
Detection range: 0-2M

4.Sensing Principle

Objects existing in nature, such as human bodies, flames, or ice cubes, emit infrared light at different wavelengths.The temperature of human body is 36 ~ 37℃, and the infrared wavelength is 9 ~ 10 microns, which belongs to the far infrared region.The infrared wavelength of 400 ~ 700℃ heater is 3 ~ 5 microns, which belongs to the middle infrared region.This feature coupled with signal processing can detect the presence of someone.The schematic diagram is as follows:

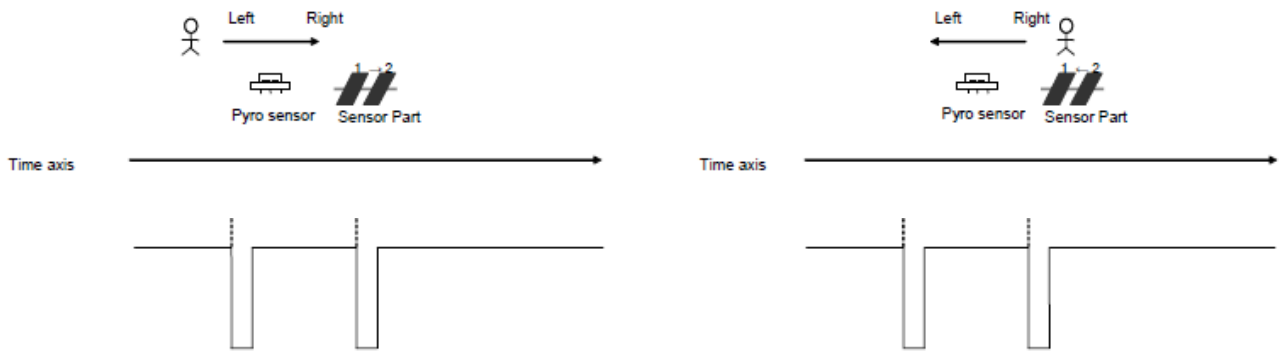


Picture 2



5. Signal Output

When someone or infrared generator moves within the test range of the sensor, the output port of the module will output two or more low levels. The low level lasts less than 1S, and then resumes. When the person or the outside line generator keeps moving within the test range of the sensor, the output port of the module will continuously output low level pulse. When the person is stationary or out of the detection range, the high output level of the sensor remains unchanged. The schematic diagram of signal induction is as follows:



Picture 3 Sensor induction diagram

6. Judgement standard

When a certain channel of the sensor is detected to output one or more low-level signals exceeding 50ms, it is assumed that someone is acting in the corresponding detection area of the channel, and the output waveform under different temperature segments will be different. Please judge by different temperature segments based on the actual test. Since sensors are not exempt from environmental interference, appropriate processing should be done when processing module signals at the later stage, and corresponding signal processing should be done in the software to reduce misoperation caused by environmental interference.

Note: Each application scenario will be different, please use the actual application scenario to set the judgment conditions. The above is only a reference judgment.

7. Special items

1. The power-on time of the sensor is 12S, the level of the first 12 seconds is in unstable state
2. Sensor level output: When someone acts, the sensor will output corresponding low-level signal. The width and time of low-level are uncertain, and the number of triggers is also uncertain. The time and number of low levels vary with temperature and distance.
3. In order to reduce environmental interference and misoperation, the product shall not be installed nearby heat source, air conditioner, wind source, direct sunlight and high frequency signal.
4. The detection sensitivity of the module will be greatly reduced when the ambient temperature of the module is high to the temperature of human body, which would can not even detect human movements.
5. The sensor can't be fixed on vibrating objects, otherwise error will take place.