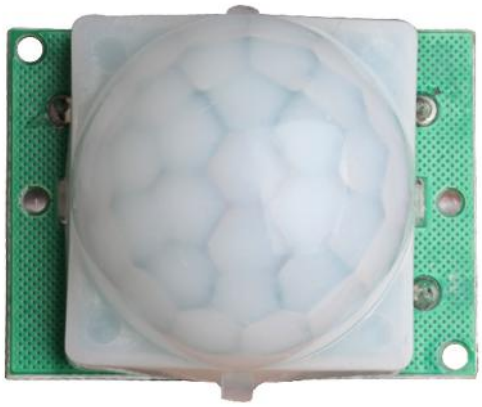
PIR Motion Detector Module

参考資料



Item No.: SB612A

General

SB612A is a pyroelectric sensor module which developed for human body detection. An integrated PIR sensor combined with a fresnel lens which is mounted on a compact PCB, and limited components to form the module. Delay time, lux is adjustable. Customization is accepted.

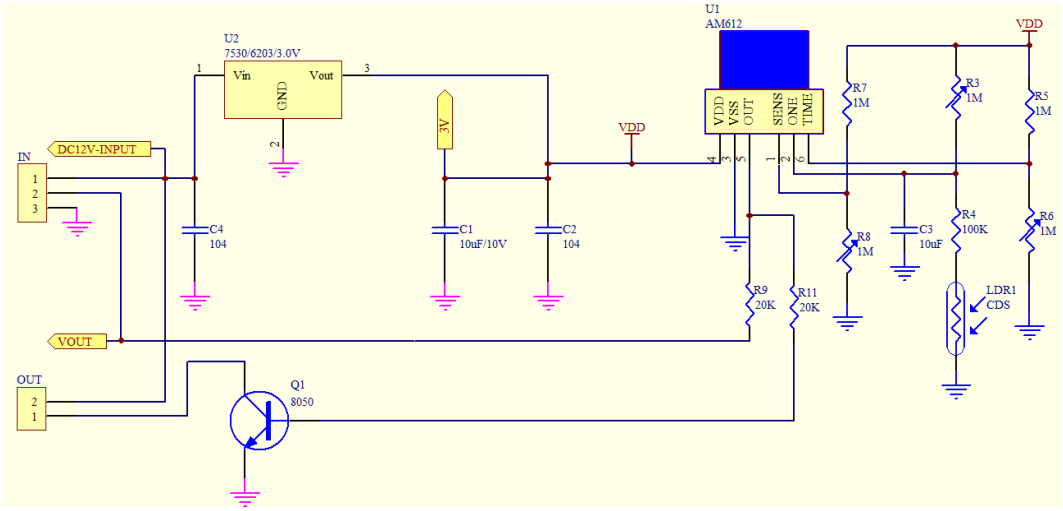
Features and Electrical Specification

Compact size: 24*32 mm
Supply voltage: DC3.3-12V
Current drain :≤30uA
Delay time: 2s-80mins, adjustable
Blockade time:2.3S
Trigger mode: Repeatable triggered
Lux: adjustable
Detecting distance: ≤8m
Detecting angle: ≤120•
Voltage Output: 3.3V High/Low level signal or Open-Collector Output
Operation Temperature: -20℃-+55℃
Infrared sensor: dual element, low noise, high sensitivity

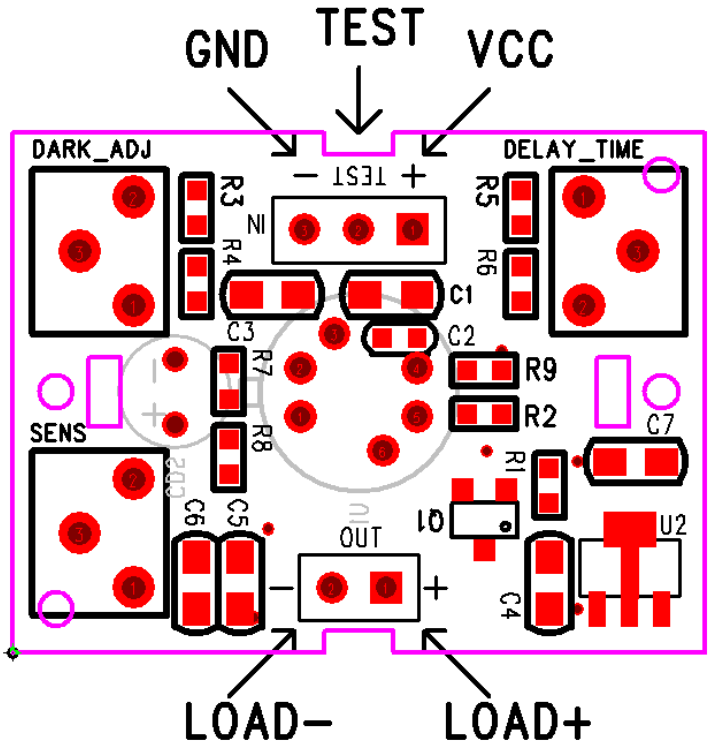
Lens information

Lens diameter: 24mm (default), detecting angle≤120°, detecting range<8M.

Schematic Diagram



Application Note



Funtions:

1. DC-INPUT：supply voltage (DC3.3V-12V)
2. TEST: test pin for output. With output, high level signal (3.3V); no output, low level signal (0V)
3. LOAD+: anode of the load. LOAD-: cathode of the load. Voltage of the load and . DC-INPUT are the same. Max current with load is 100mA.
4. DARK_ADJ：Lux adjustment.
5. DELAY_TIME: delay time adjustment.

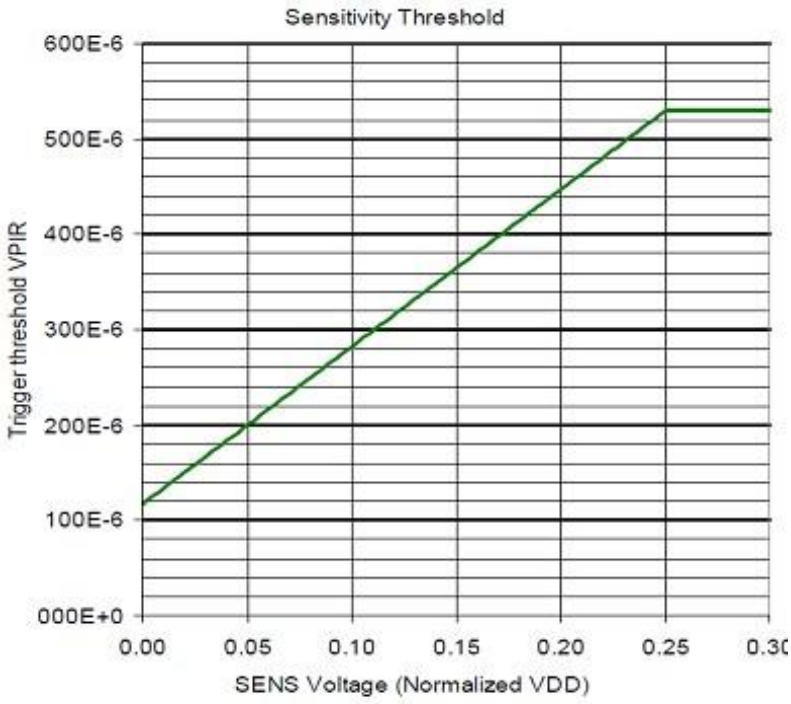
Parameter Setting

1. Input voltage and Quiescent current

The module must be added one LDO.

2. Sensitivity adjustment

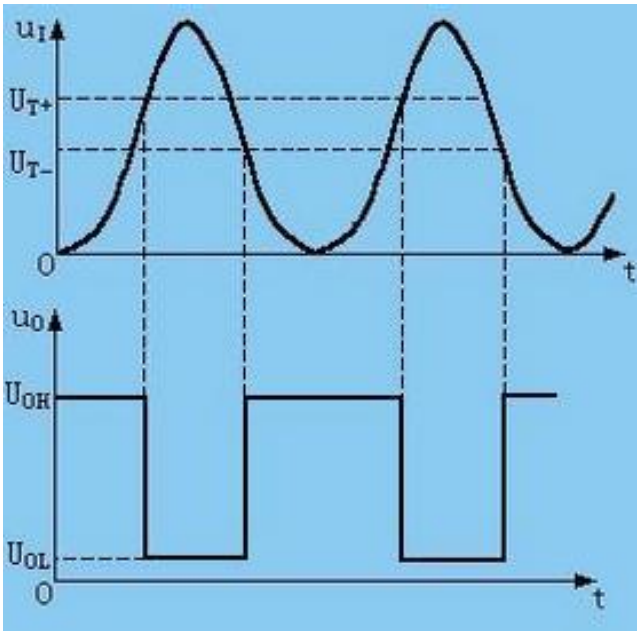
A voltage applied to the SENS input sets the threshold used to detect a PIR Signal between the PIRIN and NPIPIN inputs.VSS selects the minimum threshold voltage.Any voltage above VDD/4 will select the maximum threshold,which is the least sensitive setting for PIR signal detection.



3. Light adjustment

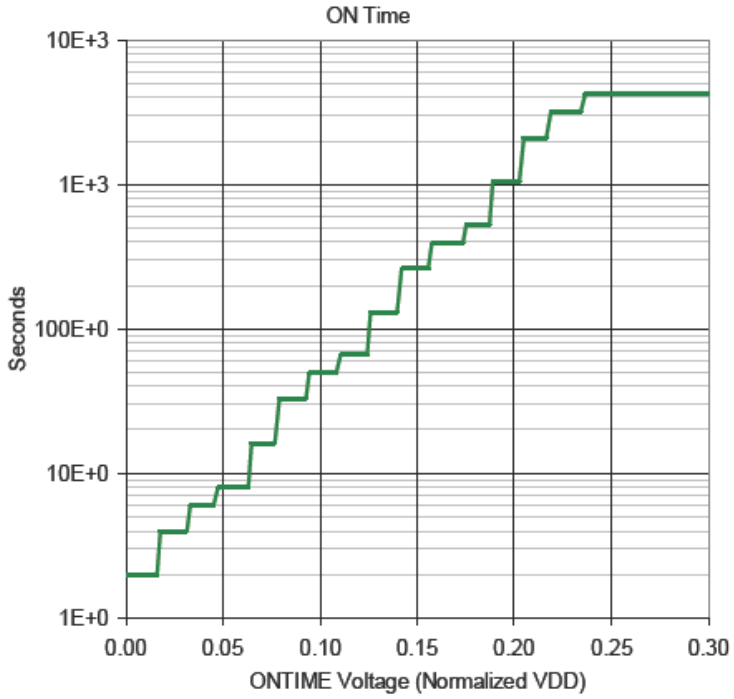
When OEN voltage from low to high,when it higher 0.4DD(1.2V),Vout output enable. OEN voltage

from high to low,when lower 0.2VDD(0.6V),Vout output disable.



4. Delay time adjustment

Pin ADC count	Ontime (VDD=3V)	REL
0	0.046 or less	2sec
1	0.048 to 0.086	4sec
2	0.088 to 0.130	6sec
3	0.132 to 0.178	8sec
4	0.180 to 0.218	16sec
5	0.220 to 0.260	33sec
6	0.262 to 0.304	49sec
7	0.306 to 0.348	1min5sec
8	0.350 to 0.392	2min11sec
9	0.394 to 0.434	4min22sec
10	0.436 to 0.480	6min33sec
11	0.482 to 0.524	8min44sec
12	0.526 to 0.568	17min28sec
13		34min57sec
14		52min25sec
15		1hour10min



Graph 2: REL Output On Time in seconds vs. ONTIME pin voltages normalized to VDD.

Note

Due to the high sensitivity of PIR sensor device, it is not recommended to use the module in the following or similar condition.

A) in rapid environmental changes

B) in strong shock or vibration

C) in a place where there are obstructing material (eg. glass) through which IR cannot pass within detection area.

D) exposed to direct sun light

E) exposed to direct wind from a heater or air condition

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