

RCWL-0516

RCWL-0516 microwave radar sensor module Human body induction switch module Intelligent sensor

Features:

1. Transmission signal processing control chip RCWL-9196
2. Wide operating voltage range: 4.0 ~ 24V
3. Compared with the traditional infrared feeling PIR, with the penetrating detection capability.
4. Block time and distance adjustable.
5. Output 3.3V power supply.

Application Design Note:

1. The sensing face in front of the gold without any shelter.
2. Front and rear sensing surface space to set aside more than 1CM
3. The module carrier plane and install as flat line
4. A certain application of effective detection area
5. The component side of the module is positive sensing face, the opposite is negative sensing surface. Negative sensing surface sensing less effective
6. Microwave modules can not be large-scale applications in the same area, otherwise there will be mutual interference. Between single individuals over distance greater than 1M

Parameters:

1. Operating Voltage: 4-24V
2. Operating Current: 2.8mA (typical);3mA (max)
3. Detection Distance: 5-7m
4. Transmitting Power: 20mW (typical);30mW (max)
5. Output Voltage: 3.2-3.4V
6. Output Voltage Driving Capacity: 30mA
7. Trigger Way: repeat trigger
8. Output Control Low Level: 0V
9. Output Control High Level: 3.3V
10. Operating Temperature: -20~80 celsius
11. Size: 36 x 17mm

Adjustment Part Introduction on back:

1. C-TM

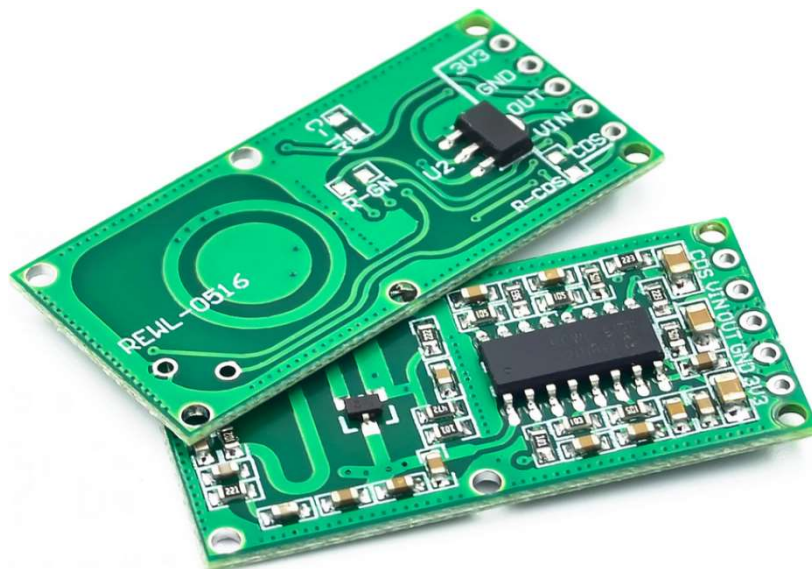
Adjust repeat trigger time, default trigger time is 2s; increasing capacitor's capacity will make repeat trigger time longer; and actual counting trigger time can operate as below: Stick capacitor on C-TM, test 9196 3-pin frequency F, repeat trigger time $T=(1/f)*32768$

2. R-GN

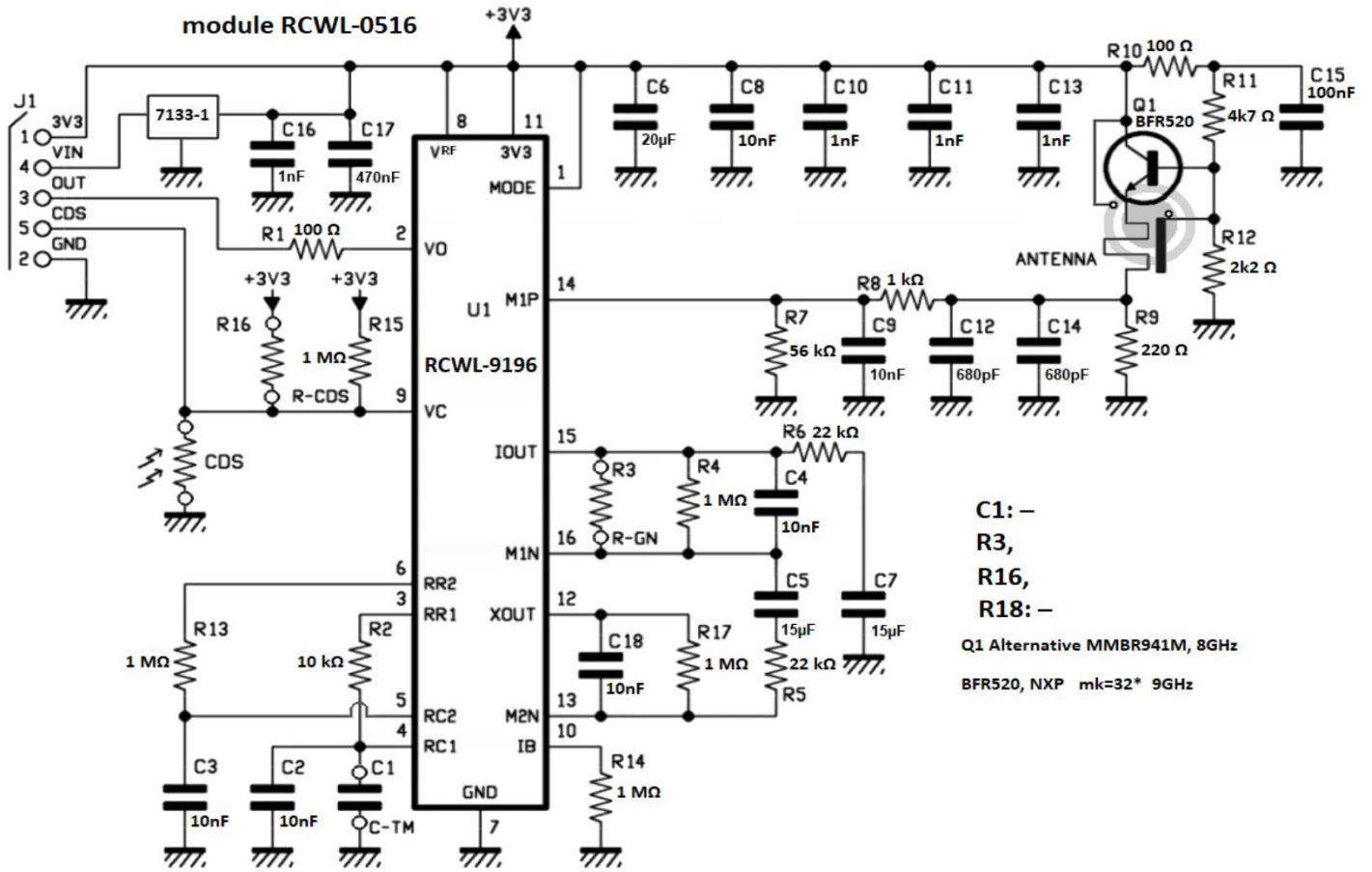
Detection distance adjustment;connect with resistor and detection distance will become shorter; if not connect, detection distance is 7m; if connect with 1M ohm resistor, detection distance is 5m

3. R-CDS

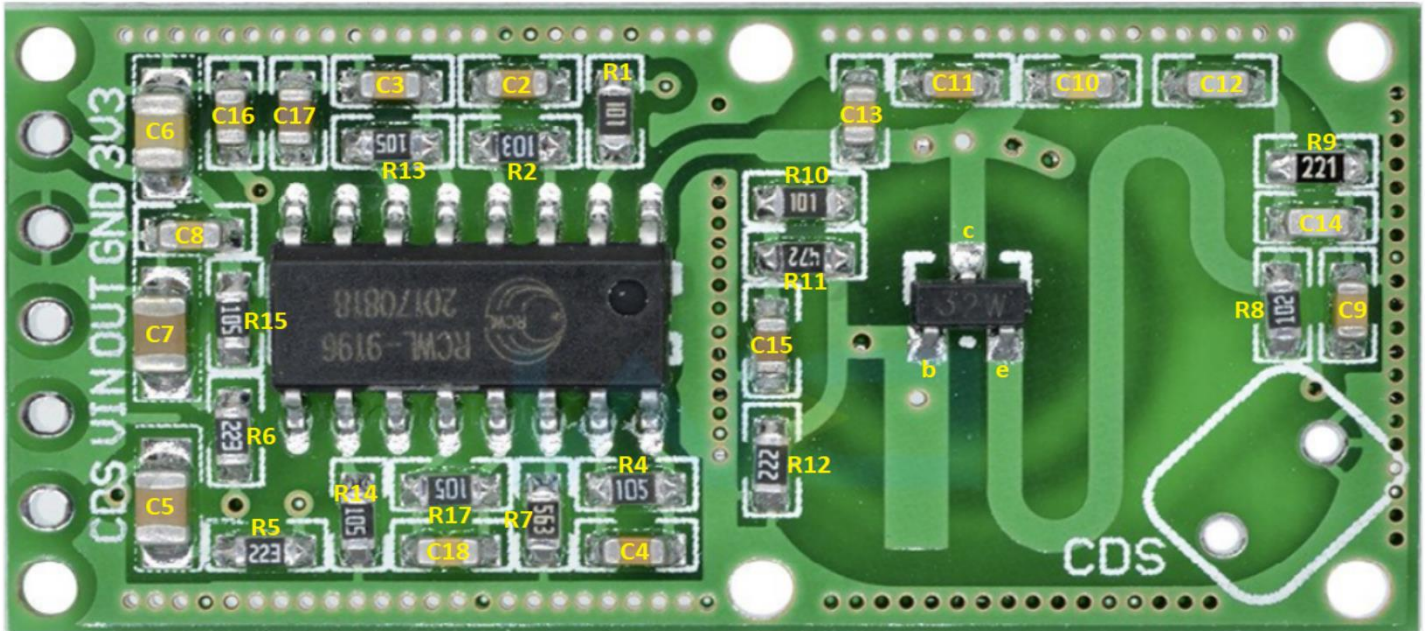
Internal VCC parallel connect with internal 1M ohm resistor to CDS pin (that is 196 9-pin) by R-CDS , CDS connects with photoresistor "LDR", you can close detection function during the day.



Schematic:



PCB Parts Identification:



Reference:

- <https://www.rogerclark.net/investigating-a-rcwl-9196-rcwl-0516-radar-motion-detector-modules/>
- <https://github.com/jdesbonnet/RCWL-0516>