RADAR10GATDUL 10.525G MODULE

WENSHING Electronics will release the RADAR10GATDUL (Doppler) 32meters long-distance radar human movement detection module series in December 2022. RADAR10GATDUL is the legal ISM band of 10.525GHz.

The infrared probe of the passive PIR pyroelectric sensor is emitted by detecting the body temperature. The disadvantage is that it is easily interfered by various heat sources and light sources, and the penetration is poor. Environmental conditions, and the distance is short, only 2~3 meters.

Radar detection cannot achieve energy-saving functions due to its power consumption, and the detection distance is not far away, and the installation density and quantity are too large, resulting in high cost.

WENSHING Electronics has improved the problems of PIR misjudgment and short distance, overcomes the shortcomings of radar power consumption, and saves user costs. It has developed RADAR10GATDUL, which has an ultra-low operating voltage of 2.1V and an ultra-low current of 98uA. It only needs 0.0002W power consumption for normal detection, up to 32 meters to detect ultra-long distance.

Features

- Detect people moving distance 32 meters
- Low operating current: 98uA
- Small size: 44*17mm
- Built-in light sensor CDS
- I2c communication interface
- Work independently, no need to
- add MCU
- Low working voltage: 2.2V
- Multi-channel
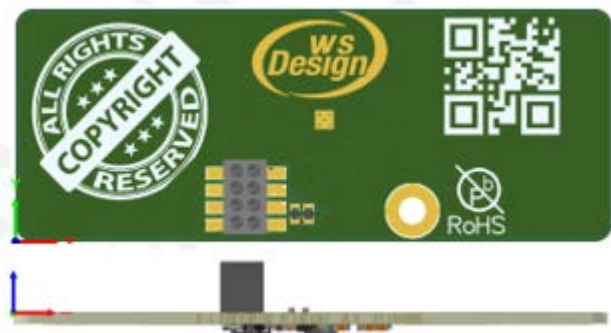
Data Sheet Revision History

Version	Date	Changes
V1.01	2022/12/11	1st. Edition

Applications

- Anti-theft device
- Billboard power saving detection
- Deportation of agricultural birds
- Person approaching detection
- Pet detection
- Remote control aircraft ground detection
- Smart Street Light
- Intelligent light control
- Smart toilet
- Long-term care
- Vehicle collision avoidance

DC Electrical Characteristics

Parameter	Specification			Unit
	Min.	Typ.	Max.	
Frequency Range	10.2	10.525	10.7	GHz
IF Frequency Range	1		40	Hz
Transmit power	-20		-3	dBm
Supply Voltage, VDD	2.1		5.5	V
Current			98	uA

Model

RADAR10GATDUL-X-XX LIST

Model	LDO/LED Function
RADAR10GATDUL-1-XX	LDO 3.3V, with LED light (standard)
RADAR10GATDUL-2-XX	LDO 3.3V, no LED signal
RADAR10GATDUL-3-XX	No LDO, no lights
RADAR10GATDUL-5-XX	With light sensor LDO 3.3V, with LED light (standard)
RADAR10GATDUL-6-XX	With light sensor LDO 3.3V, without LED light signal
RADAR10GATDUL-7-XX	With light sensor LDO, no light signal

Hardware trigger delay options

Model	Tigger off-delay time
RADAR10GATDUL-X-01	The trigger is HI, and it is LOW after 1 second (standard)
RADAR10GATDUL-X-15	The trigger is HI, LOW after 15 seconds
RADAR10GATDUL-X-30	The trigger is HI, LOW after 30 seconds
RADAR10GATDUL-X-60	The trigger is HI, LOW after 60 seconds

PS. If the post-trigger delay time process is triggered again, its time will continue to be extended accordingly.

Dimensions
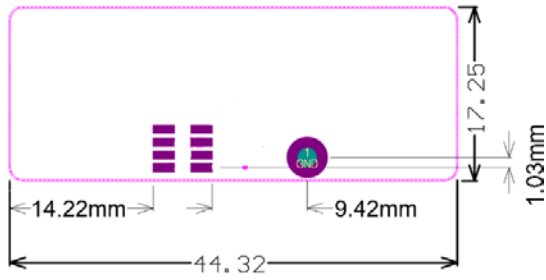
Pin Assignment

Pin	Name	Function	Description
1	VDD	POWER	Power Supply 2.1~5.5V
2	IF	O	IF Export
3	ENABLE	I	Control LDO HI actions
4	SDA	I/O	I2c communication interface
5	INT	O	There is a trigger output HI when moving
6	SCL	O	I2c communication interface
7	GND	GND	Power GND
8	VCC	O	Internal LDO output 3.3V

PCB accessories
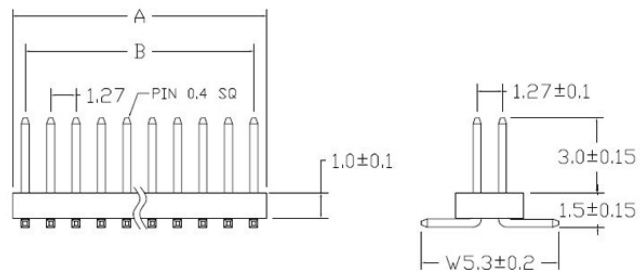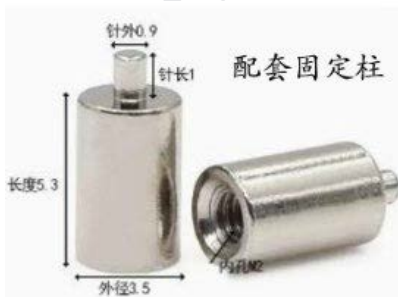
Antenna direction

Small angle, not easy to trigger false action.