

433.92MHz RF Regular RF Receiver Module

Features

- | | |
|--------------------------------|---|
| ▪ RF Frequency | 433.92 MHz |
| ▪ Modulation | ASK/OOK |
| ▪ Data Rate | 300 ~ 4kpbs |
| ▪ RF Sensitivity | -80 dBm (Max) @ 433.92MHz
(data rate: 4kpbs) |
| ▪ Power Supply | 3.0 ~ 6.0V |
| ▪ Maximum operating current | 2.5 mA |
| ▪ Power Supply at Standby Mode | 5 μ A |
| ▪ Low Wake up Time | less than 4 ms @ 4kpbs |
| ▪ Operating temperature | 10 ° C ~ 65 ° C |

Applications

- Telemetry
- Remote control
- Wireless mouse, keyboard, joystick
- Wireless data modem
- Wireless security systems
- Car alarms
- Remote keyless entry (RKE)
- Toys

Module Size

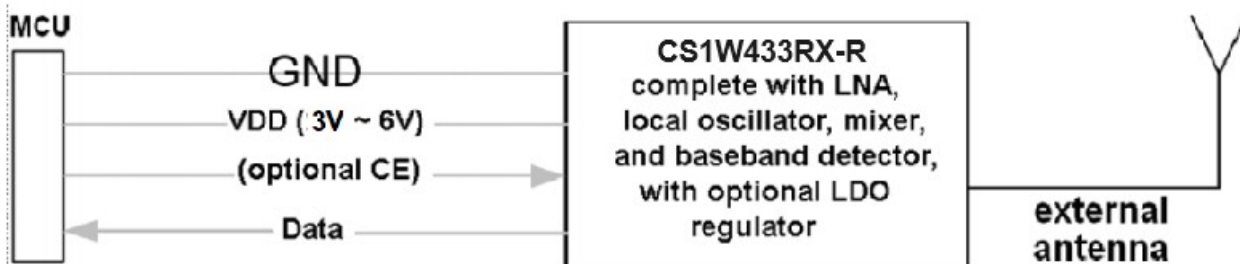
- 23.3 x 18.5 X 6.0 mm

General Description

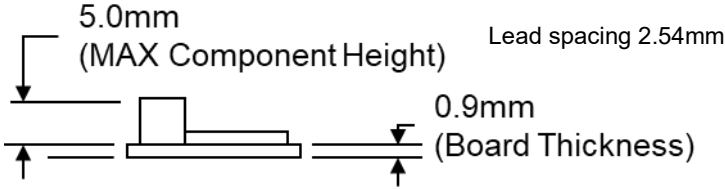
The CS1W433RX-R is a very compact RF receiver module for the 433MHz ISM band. The module makes use of CS1W103 CMOS RFIC which comprised of a complete, LNA, local oscillator, mixer, and signal detector. The CS1W433RX-R module simplifies the design effort and assures successful field operation. The module is designed to making FCC and ETSI approvals easy. The super-regenerative design exhibits exceptional sensitivity at a very low cost. The manufacturing-friendly SIP style package and low-cost make the receiver module suitable for high volume applications.

The module come with embedded 2.7V low dropout regulator which can operate from 3.0V to 6.0V. When paring up with CM1W433TX203 transmitter modules, the RF communication range can be up to 100 meters. The module works well with standard data encoding chip to provide seamless and transparent RF communications.

Application Circuit



Mechanical Drawing



Pin Descriptions

Pin Number	Pin Name	Description
1	CE	Connecting to VDD will enable the module, and connecting to GND will put the module in standby mode
2	DATA	Data output
3	VDD	Power Supply
4	GND	Power Ground (VSS)
5	ANT	Antenna connection

Antenna Guide

The antenna port should connect to a 50 ohm antenna. Antenna can be single core wire of approximately 17cm length for 433.92MHz,. Any time a trace is longer than 1/8-th the wavelength of the frequency it is carrying, it should be a 50 ohm microstrip. The antenna port impedance affects receiving sensitivity and different antennas varies.

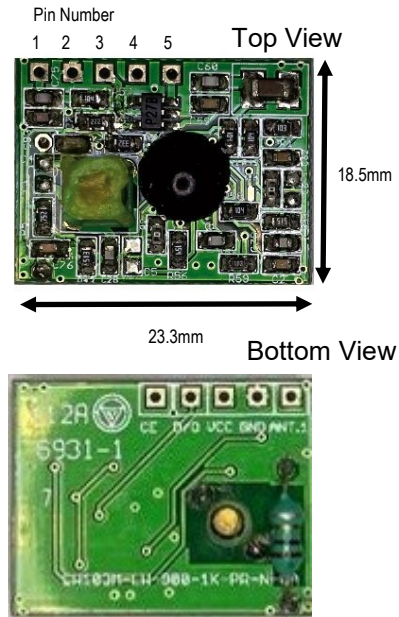
Absolute Maximum Ratings

Characteristic	Symbol	Min	Max	Unit
Power Supply Voltage	VDD	-0.3	6	V
Ground	VSS	0	0	V
Output Voltage	Vo	VSS	VDD	V

NOTE 1 : Maximum ratings are for design aid only, not subject to production testing. Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Supply voltage	VDD	3.0		5.0	V
Supply current in receiving mode	ICC	1	2	3	mA
Supply current in standby mode	ICC	1		10	mA
High level input voltage to CE	VIH	0.7 VDD		6	V
Low level input voltage to CE	VIL	VSS		0.1 VDD	V
High level output voltage	VOH	2.4	2.7	2.7	V
Low level output voltage	VOL	VSS	0	0.3	V
Sensitivity		-46		-104	dBm
Start up time		1		200	ms
Data rate		50		4000	bps



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