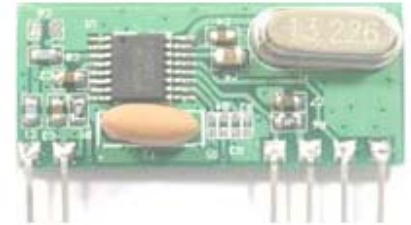


## RF Receiver Module

### General Description

- The RFRM4302-RXN3S is a miniature receiver module that receives On-off keyed (OOK) modulation signal and demodulated to digital signal for the next decoder stage. Local oscillator is made of PLL structure. The result is excellent performance in a simple to use, with a very low external component count.
- The RFRM4302-RXN3S is designed specifically for remote-control and wireless security receiver operating at 315MHz/433.92MHz in the USA under FCC part 15 regulation.



### Features

- ASK (OOK) Super Heterodyne Receiver Module for 315MHz/433.92MHz
- Low Power Consumption and Standby Current: 5uA (typ.)
- Excellent Sensitivity for both 315MHz and 433.92MHz
- 13.226 MHz Crystal Oscillator for 433.92MHz and 9.509MHz Crystal Oscillator for 315MHz
- Can get different RF frequency with Minor Component Change on the same board.
- Build-in LNA, AGC, RSSI, PLL, VCO, PFD, IF Ceramic Filter and PD
- Few external components and Low cost
- RoHS Compliance



### Applications

- Remote Control Systems
- Video Sender Remote Controller
- Car Alarm Systems
- Home Security Systems
- Automation Systems
- Remote keyless Entry System
- Garage door openers

# RF Receiver Module (ASK/OOK/315/433.92MHz)

## RFRM4302-RXN3S

### Absolute Maximum Ratings *(T<sub>A</sub>=25°C unless otherwise specified)*

Symbol	Description	Ratings	Unit
<b>V<sub>cc</sub></b>	Power Supply or Modulation Input Voltage	6	V
<b>CE</b>	Chip Enable Input Voltage	6	V
<b>Top</b>	Operating Temperature Range	-40 to +85	°C
<b>Tstg</b>	Storage Temperature Range	-40 to +150	°C

### Electrical Characteristics *(T<sub>A</sub>=-40 °C to 85°C unless otherwise specified)*

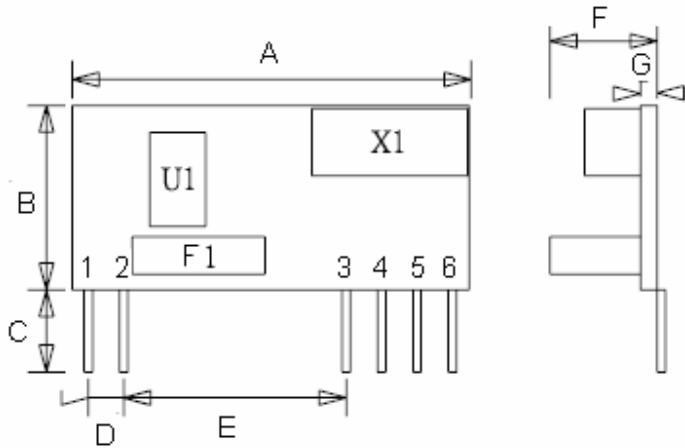
Symbol	Description	Min.	TYP.	MAX.	Unit	Conditions	
<b>V<sub>cc</sub></b>	Supply Voltage	2.7	5.0	5.5	V	370~440MHz	
<b>I<sub>cc</sub></b>	Supply Current	-	2.7	3.0	mA	315MHz	
			2.9	3.2		434MHz	
<b>f<sub>RF</sub></b>	RF Input Frequency	250	-	500	MHz	-	
<b>P<sub>sens</sub></b>	Sensitivity (Note1)	315MHz	-	-112	-109	dBm	V <sub>cc</sub> =3.0V, T <sub>A</sub> =27 °C BER=3%, 50% duty cycle, AM 99% with Square Wave, 2Kb/s
		433.92MHz	-	-111	-108	dBm	
<b>I<sub>o</sub></b>	Data Output Pin Current	6	20	-	-	uA	
<b>I<sub>STBY</sub></b>	Standby Current	-	5	8	uA	CE Pin pull low	
<b>CE</b>	Chip Enable, pull high for normal operation mode, and pull low for standby mode	V <sub>cc</sub> * 0.8	-	-	V	-	
		-	-	V <sub>cc</sub> * 0.2	V	-	
<b>DR</b>	Data Rate	200	1K	5K	bps	-	

Note1: Sensitivity is defined as the Minimum average signal level measured at the input which necessary to achieve a bit error rate of 0.01 when the input signal is a return-to-zero (RZ) pulse with an average duty cycle of 50%. The RF input is assumed to be matched to 50 ohms

# RF Receiver Module (ASK/OOK/315/433.92MHz)

## RFRM4302-RXN3S

### Pin Description and Dimensions



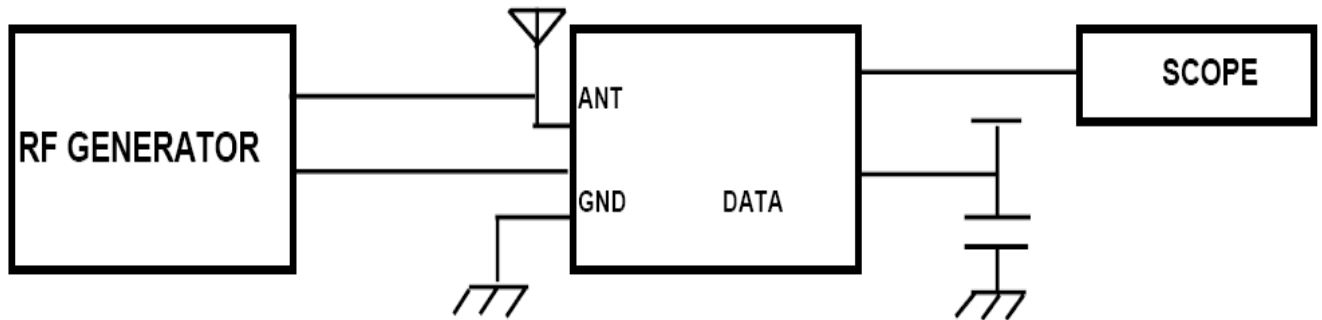
Dimension (mm)	
A	28.5±0.25
B	12.25±0.25
C	5.9±0.1
D	2.54(max)
E	15.3±0.2
F	8.5±0.5
G	1.2(max)

Pin Configuration	Connection	Description
1	ANT	RF input connected to antenna by a matching network
2	GND1	Ground for RF portion, Set up to N.C. when no external antenna
3	CE	Chip Enable, Pull high for the normal operation modes, Pull low for standby mode
4	Vcc	2.7V to 5.5V
5	DATA	Demodulator Data Output
6	GND	Ground for DC voltage supply or LO and digital portion

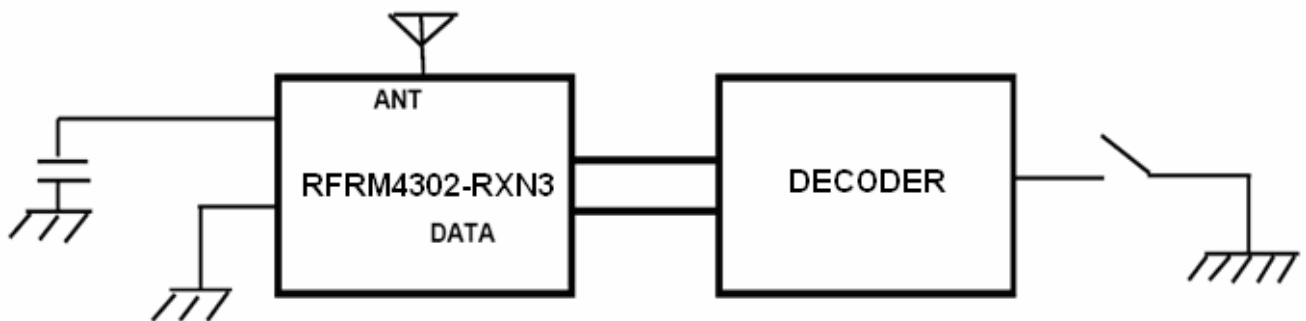
# RF Receiver Module (ASK/OOK/315/433.92MHz)

RFRM4302-RXN3S

## Typing Test Circuit



## Typical Receiver Application



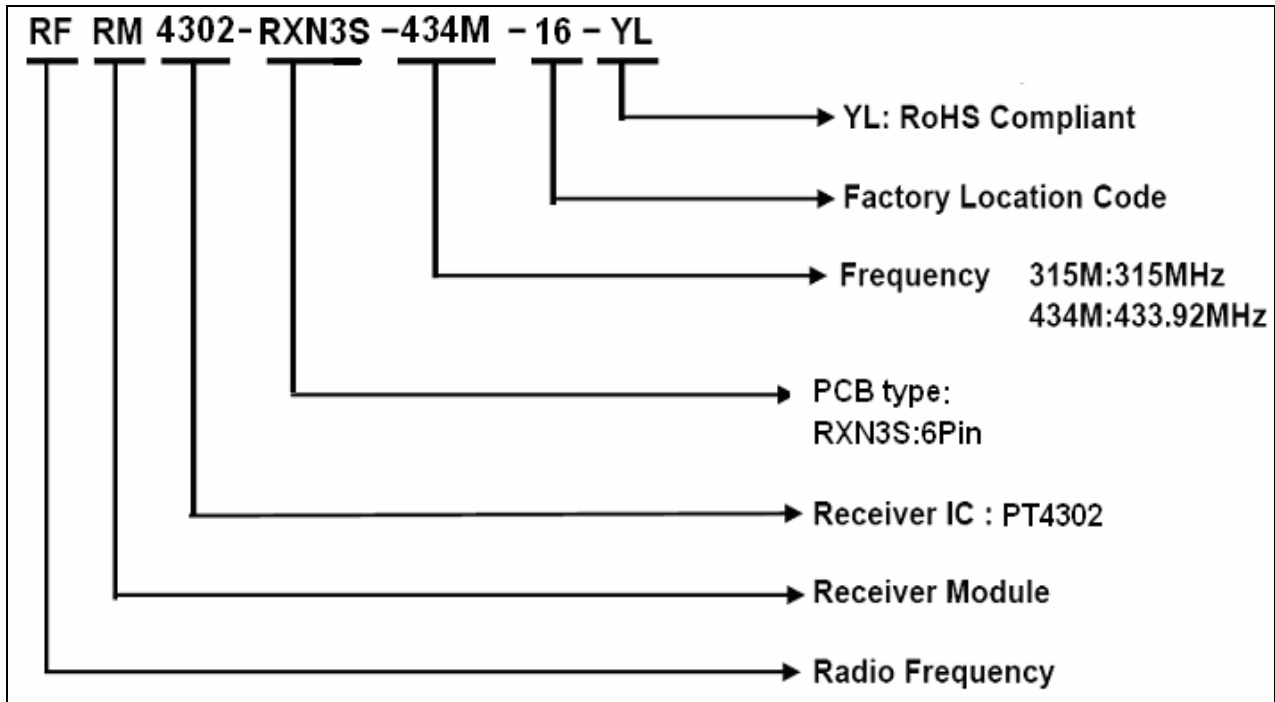
## Notes:

1. Decoder: PT2272
2. Antenna: Length=22.6cm for 315MHz; Length=17.2cm for 433.92MHz

# RF Receiver Module (ASK/OOK/315/433.92MHz)

## RFRM4302-RXN3S

### How to order



Part Number	Frequency	Vcc	Pin Qty's
RFRM4302-RXN3S-434M-16-YL	433.92MHz	2.7 to 5.5V	6Pin
RFRM4302-RXN3S-315M-16-YL	315MHz		

# RF Receiver Module (ASK/OOK/315/433.92MHz)

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**RFRM4302-RXN3S**

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