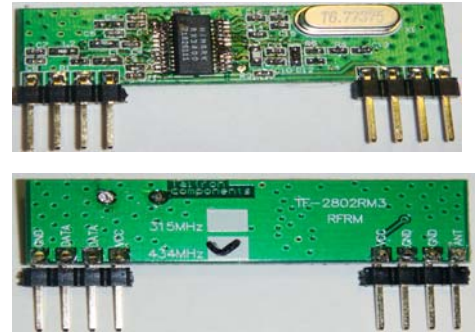


RF Receiver Module

General Description

- The RFRM3400-MP is a Miniature receiver module that receives ASK Modulation Signal and demodulated to digital signal for the next decoder stage.
Local Oscillator is made of PLL structure.
excellent performance in a simple to use, with very low external component count
- The RFRM3400-MP is designed specifically for remote-control and wireless security receiver operating at 315MHz/433.92MHz in the USA under FCC Part 15 Regulation



Features

- Low Power Super Heterodyne ASK Receiver Module
- 4.914 MHz Crystal Oscillator for 315MHz Application,
And 6.773MHz Crystal Oscillator for 433.92MHz Application
- Can get different RF frequency with Minor Component Change on the same board.
- Receiver Input Radio Frequency:290MHz to 460MHz
- Low Power ASK Receiver Chip with build-in LNA, RSSI, PLL, VCO, PFD, IF Fliter and PD
- Phase-Locked Loop (PLL) for precision local oscillator generator
- Meet FCC Part 15 Regulation
- RoHS Compliance



Applications

- Remote Control Systems
- Video Sender Remote Controller
- Car Alarm Systems
- Home Security Systems
- Automation Systems
- Remote keyless Entry

RF Receiver Module (ASK/315/433.92MHz)

RFRM3400-MP

Absolute Maximum Ratings *(T_A=25°C unless otherwise specified)*

Symbol	Description	RFRM3400-MP	Unit
V _{CC}	Power supply or Modulation input Voltage	5.5	V
T _{OP}	Operating Temperature Range	-40 to +85	° C
T _{STG}	Storage Temperature Range	-55 to +150	° C

Electrical Characteristics *(T_A=-40 °C to 85°C unless otherwise specified)*

Symbol	Description		Min.	TYP.	MAX.	Unit	Conditions
V _{CC}	Supply Voltage		4.75	5.0	5.25	V	-
I _{CC}	Supply Current		-	2.3	3	mA	V _{CC} =5.0V
f _{RF}	RF Input Frequency		290	-	460	MHz	-
P _{sens} *	Sensitivity *	315MHz	-	-105	-103	dBm	V _{CC} =5.0V, T _A =27 °C BER=1%, 50% duty cycle, 2Kb/s
		433.92MHz	-	-104	-102	dBm	
V _{OH}	ASK Out Logic High		V _{CC} * 0.7	-	-	-	I _{load} =10uA
V _{OL}	ASK Out Logic Low		-	-	V _{CC} * 0.3	-	I _{load} =10uA
DR	Data Rate		300	1K	4~5K	bps	-

* 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/315/433.92MHz)

RFRM3400-MP

Typical Characteristics Curves

Fig.1 315MHz LO-V_{cc}

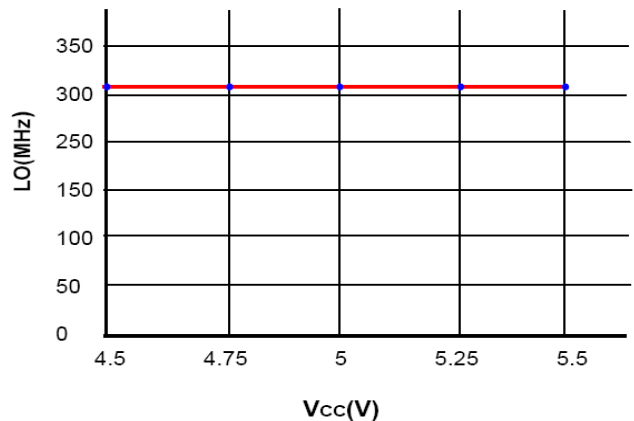


Fig.2 433.92MHz LO-V_{cc}

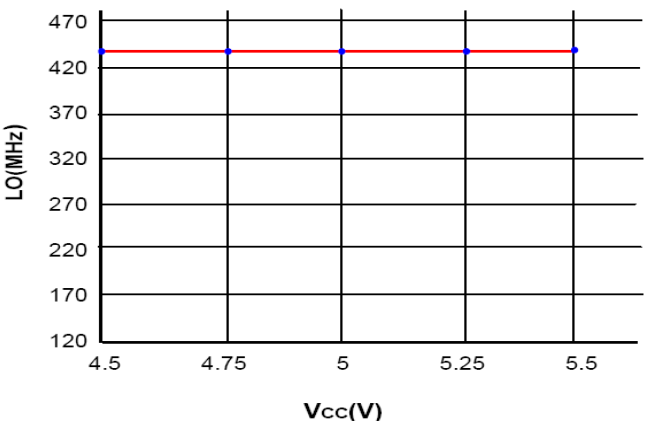


Fig.4 Sensitivity-433.92MHz

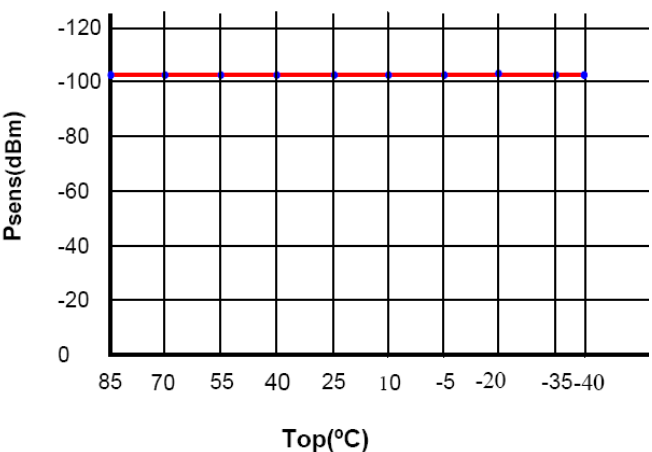


Fig.3 Sensitivity-315MHz

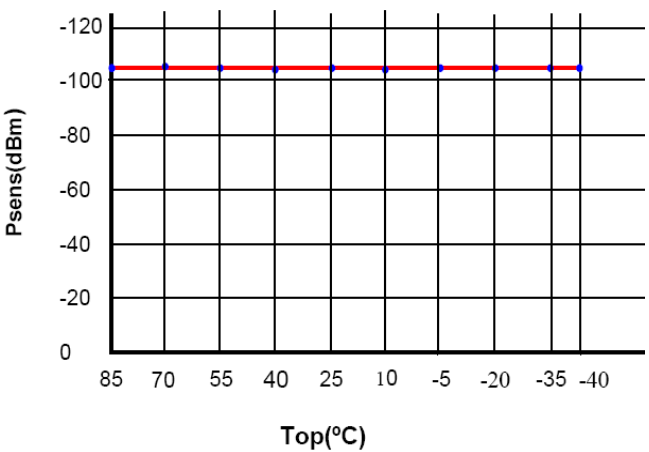


Fig.5 LO -315MHz

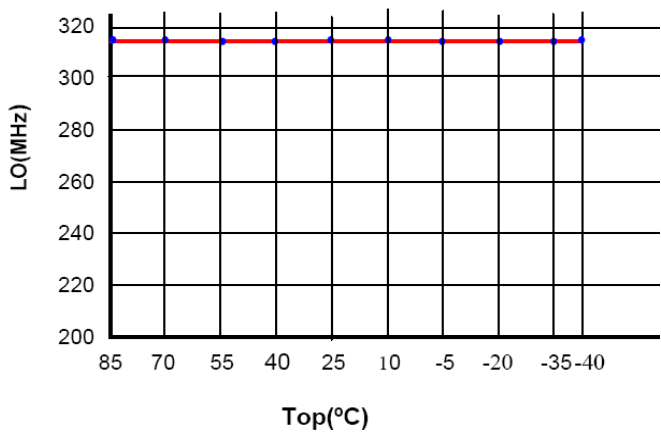
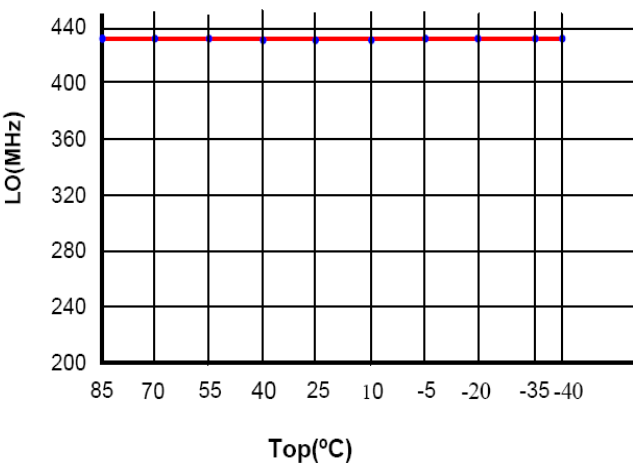


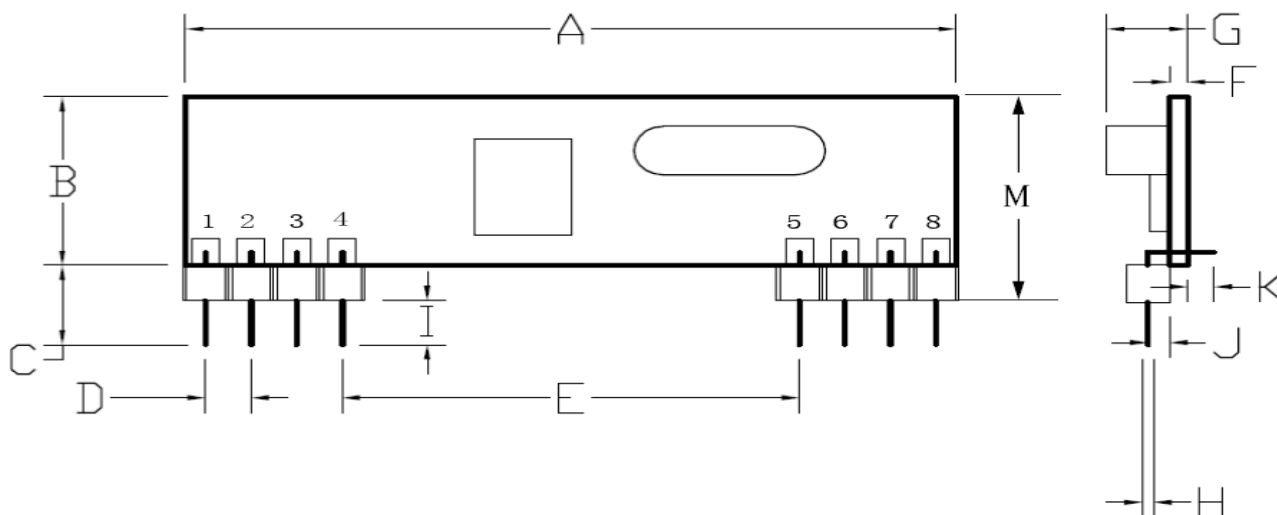
Fig.6 LO-433.92MHz



RF Receiver Module (ASK/315/433.92MHz)

RFRM3400-MP

Pin Description and Dimension



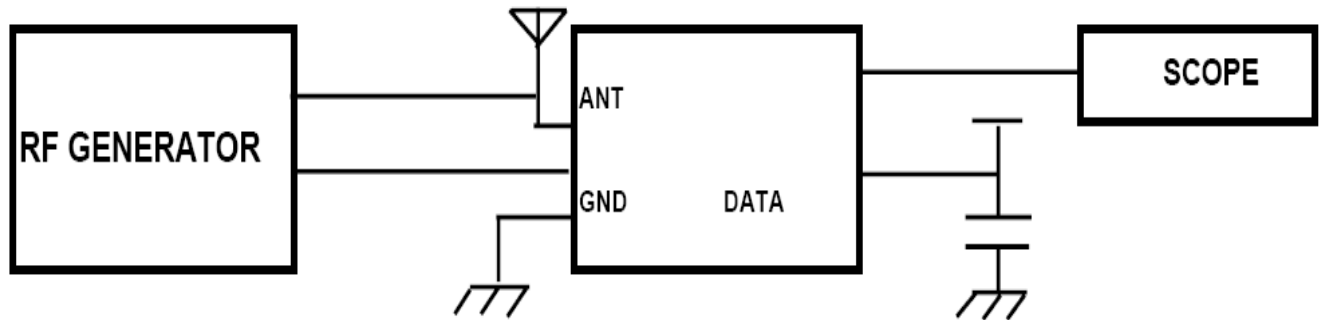
Pin	Connection	Description
1	ANT	RF Output with 50ohm matched antenna
2	GND	RF/DC Ground
3	GND	RF/DC Ground
4	V CC	5V DC Supply Voltage
5	VCC	5V DC Supply Voltage
6	DATA	Data Output
7	DATA	Data Output
8	GND	RF/DC Ground

Dimension	Units(mm)	Dimension	Units(mm)
A	43.0±0.25	G	4.5±0.5
B	11.5±0.25	H	0.65±0.2
C	9±0.5	I	6.5±0.5
D	2.54±0.2	J	1.5±0.5
E	25.5±0.5	K	1.5 max
F	1.0±0.5	M	14.5±0.5

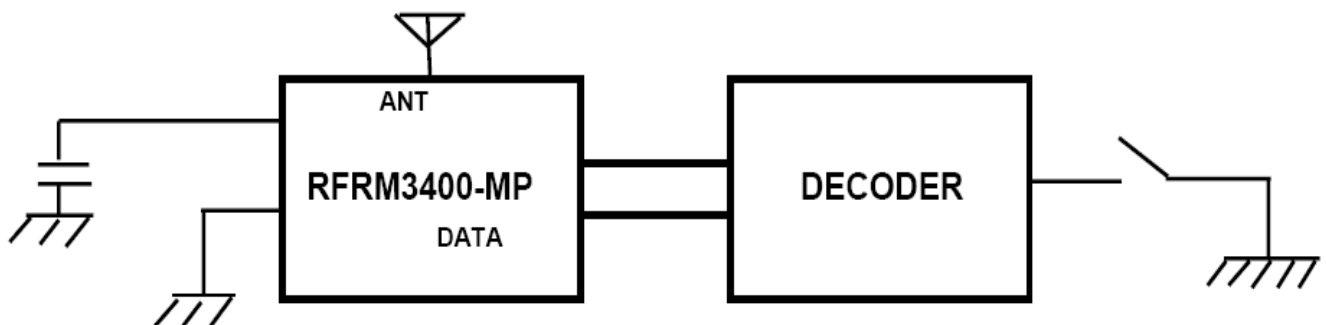
RF Receiver Module (ASK/315/433.92MHz)

RFRM3400-MP

Typing Test Circuit



Typical Receiver Application



Notes:

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

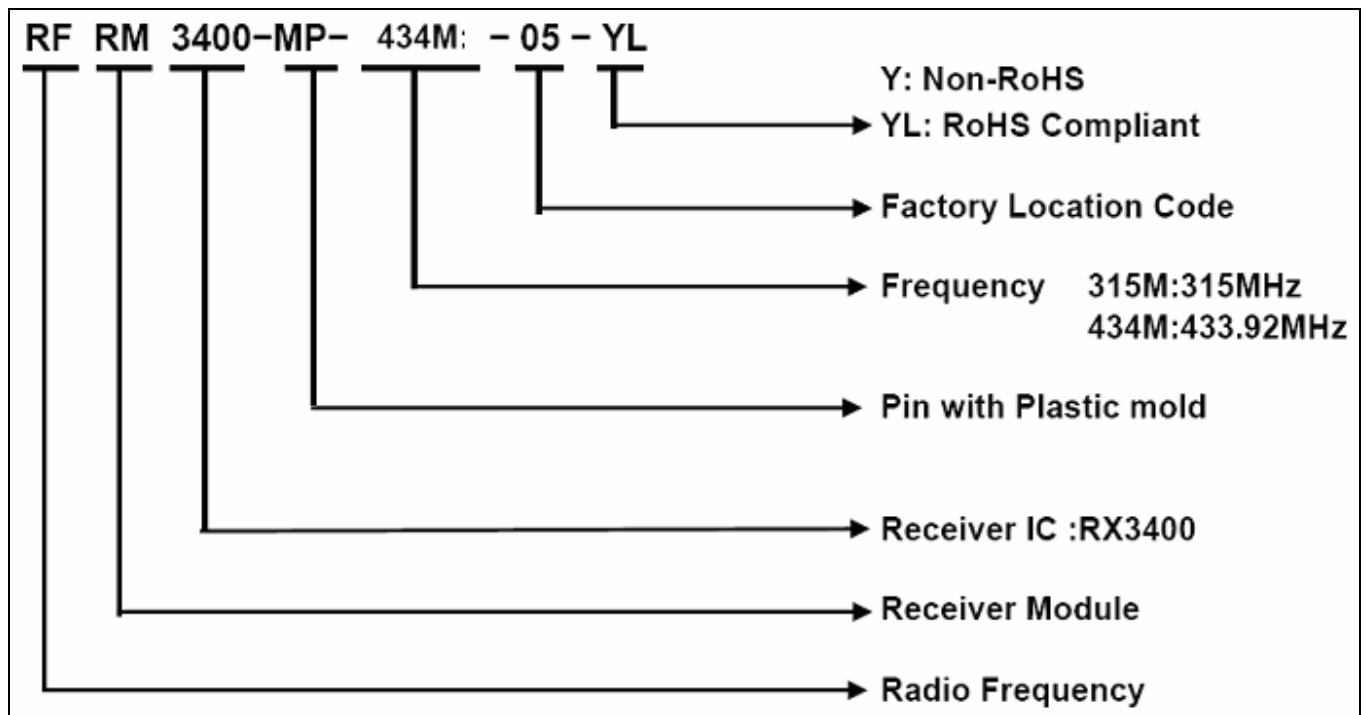
RF Receiver Module (ASK/315/433.92MHz)

RFRM3400-MP

Order information:

Valid Part Number	Frequency	Vcc
RFRM3400-MP-434M-05-Y	433.92MHz	5.0V
RFRM3400-MP-434M-05-YL	433.92MHz	5.0V
RFRM3400-MP-315M-05-Y	315MHz	5.0V
RFRM3400-MP-315M-05-YL	315MHz	5.0V

How to order



RF Receiver Module (ASK/315/433.92MHz)

RFRM3400-MP

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