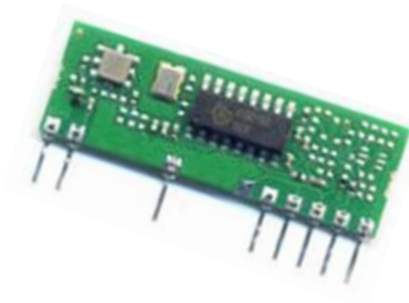


Wireless Transparent Modules Datasheet

32001415

OOK/ASK SUPER HETERODYNE RECEIVER

Datasheet



Overview

Low cost, high performance OOK/ASK Superheterodyne receiver in the 434MHz SRD Band, manufactured in SMT technology on printed circuit board.

Typical applications are remote control system, security systems, data transmission, industrial controls, home automation.

Contents

1.	Description	3
2.	Mechanical Dimensions	3
3.	Pin Definition	3
4.	Electrical characteristics	4
4.1	Absolute Maximum Ratings	4
4.2	Operating Condition	4
4.3	Temperature Range Curves	5
5.	Application Notes.....	6
6.	Regulatory Approvals.....	6
7.	Revision History.....	6

1. Description

Suitable for all HCS, HT12 encodings and similar.

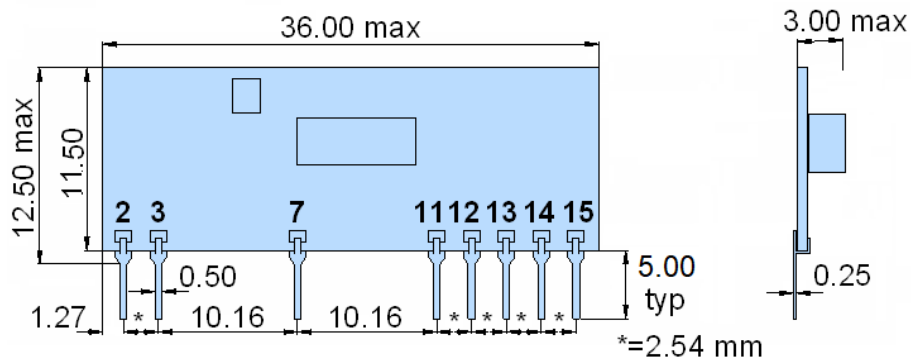
RSSI output proportional to received signal level.

RF front-end filter assures great immunity to out-of-band interferers.

CATEGORY 2 RECEIVER developed according to ETSI EN 300 220 European Standard.

The module meets with the Radio Equipment Directive (RED) 2014/53/EU.

2. Mechanical Dimensions



3. Pin Definition

- 2 = GND
- 3 = RF Input (50 Ω)
- 7 = GND
- 11 = GND
- 12 = +VCC
- 13 = N.C.
- 14 = DATA Out
- 15 = +VCC

4. Electrical characteristics

4.1 Absolute Maximum Ratings

Parameter	Max.	Unit
Supply voltage (VCC) pin 12:	5.5	V
Radio Frequency Input, pin 3:	10	dBm
Output pins voltage with respect to GND	VCC	V
Storage Temperature:	-40 ÷ 100	°C
Operating Temperature:	-20 ÷ 70	°C

4.2 Operating Condition

RECEIVER ELECTRICAL CHARACTERISTICS @ 25 °C

Parameter	Min.	Typ.	Max.	Unit	Notes
Supply Voltage (VCC)	4.0	5.0	5.5	V	
DC Current Drain	-	7.0	-	mA	
Operating Frequency	-	433.92	-	MHz	
Sensitivity	-	-105	-	dBm	See note 1
RF Bandwidth (-3dB)	-	250	-	kHz	See note 1,4
Baud Rate	-	-	4800	Baud	
Start-up time	-	-	35	ms	See note 2
Output Logic Low	GND	-	0.1	V	
Output Logic High	-	VCC	-	V	
Output load (pin 14)	50	-	-	kΩ	

4.2.1 Notes:

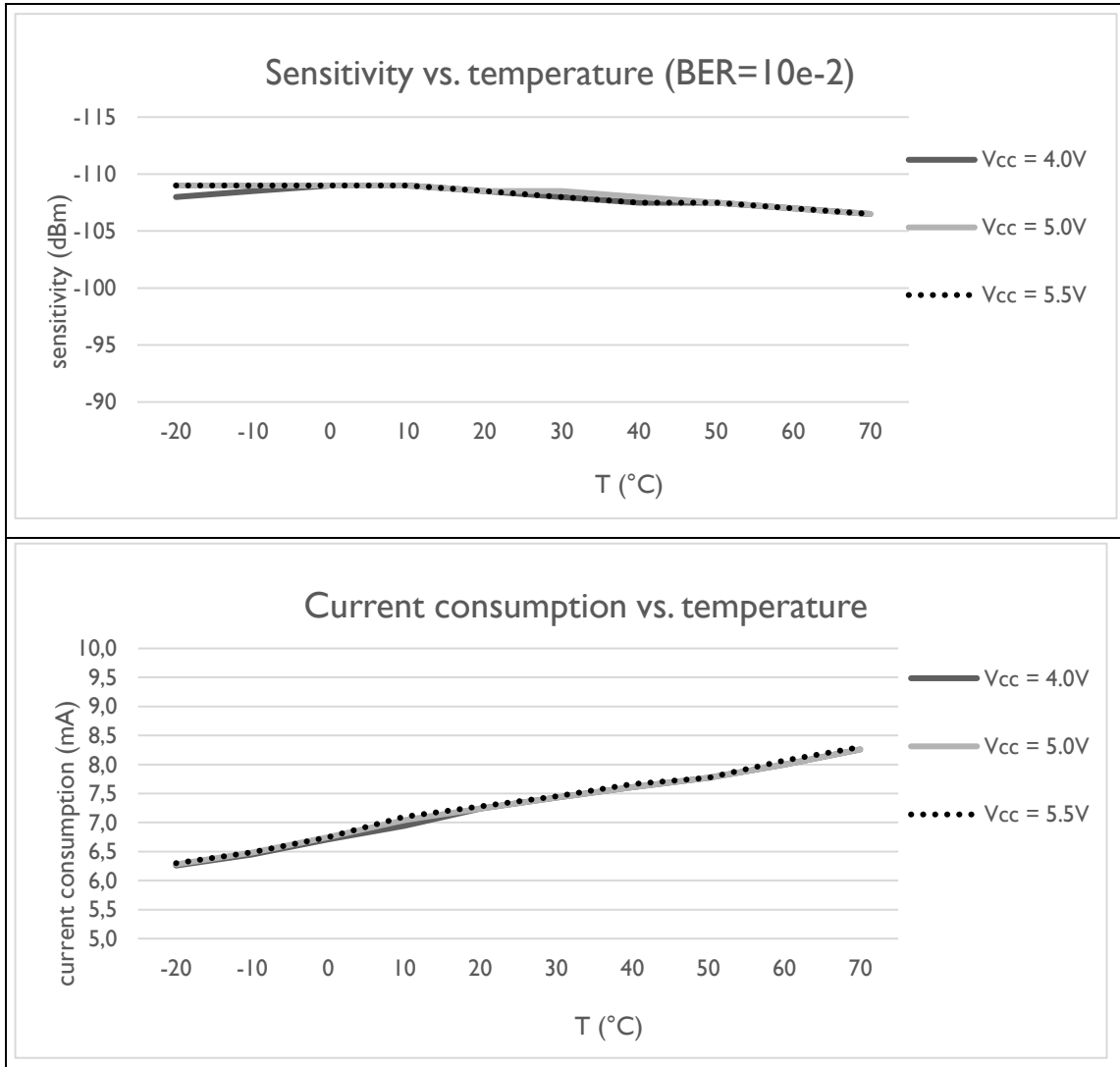
Note 1: Test signal ASK pseudo random code NRZ (mod. depth 100%) 2400 Baud.
Result at BER = 10^{-2} or better.

Note 2: Time by power on to valid data reception.

Note 4: All RF parameters measured with input (pin 3) connected to 50 Ω impedance signal source or load.

4.3 Temperature Range Curves

Note: All RF parameters measured with input (pin 3) connected to a 50 Ω impedance signal source or load.



5. Application Notes

Title	Description	Doc
Frame Structure for Radio Communication	Description on data encoding techniques	AN_RF_001.pdf
PCB Layout Guidelines	Hints how to make a good RF design	AN_RF_002.pdf

6. Regulatory Approvals

Doc	Title	Description
32001415_DoC.pdf	Declaration of Conformity	Declaration of the conformity with the essential requirements of the European Directive 2014/53/EU

7. Revision History

Revision	Date	Description
1.0	20.07.2018	Release
1.1	19.12.2018	Pin length adjust
2.0	03.11.2020	Final release
2.1	06.10.2021	Improved text layout
2.2	24.05.2022	Corrected ISM to SRD Band; corrected pinout, removed pin 13 RSSI Out