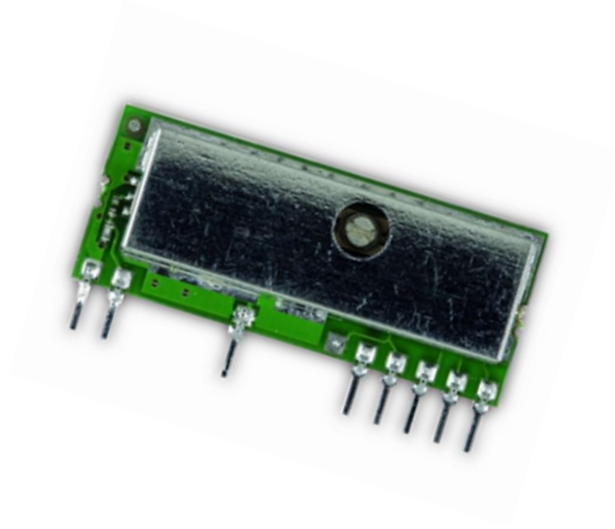


# Wireless Transparent Modules Datasheet

## 32001252

NARROW BAND OOK/ASK 434 MHz SUPER-REGENERATIVE RECEIVER

## Data Sheet



### Overview

Narrow band low power OOK/ASK receiver with high performance, reliability and compact dimensions, based on super-regenerative technique.

Typical applications are security systems, data transmission, industrial controls, anti-theft systems.

# 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 .....	6
5.	Application Notes.....	7
6.	Regulatory Approvals.....	7
7.	Revision History.....	7

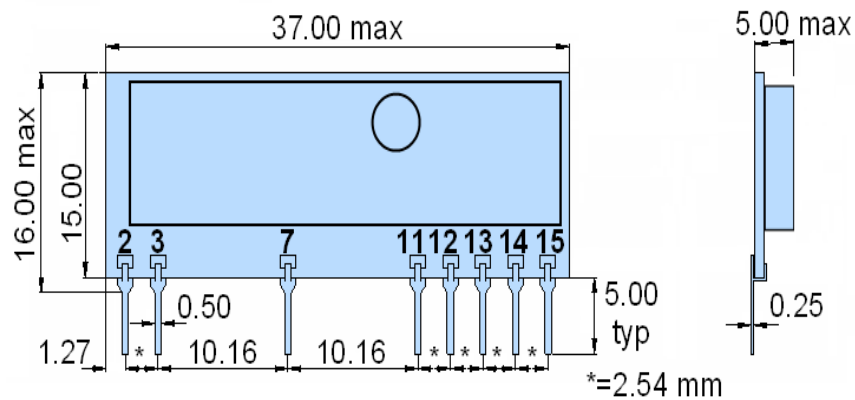
## 1. Description

This receiver module is based on super-regenerative system to demodulate the OOK/ASK transmission. A front-end SAW filter enhances selectivity and suppress out-of-band interferences.

A complete metallic shield improves noise immunity.

Operating in the 434 MHz SRD Band.

## 2. Mechanical Dimensions



## 3. Pin Definition

- 2 = GND
- 3 = RF Input (50 Ω)
- 7 = GND
- 10 = + Vcc
- 11 = GND
- 12 = + Vcc
- 13 = Test Point/Slicer Threshold Control (see 4.2.1 Notes)
- 14 = Data OUT
- 15 = + Vcc

## 4. Electrical characteristics

### 4.1 Absolute Maximum Ratings

Parameter	Max.	Unit
Supply voltage, +Vcc, pin 10, 12, 15:	8	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

GENERAL ELECTRICAL CHARACTERISTICS @ 25 °C

Parameter	Min.	Typ.	Max.	Unit	Notes
Supply Voltage (Vcc)	4.5	5.0	5.5	V	
DC Current Drain	-	2.1	-	mA	
Operating Frequency	-	433.92	-	MHz	See note 4
Sensitivity	-	-102	-	dBm	See note 1
RF Bandwidth (-3dB)	-	600	-	kHz	See note 4
Spurious Radiated Emissions	-	-	-57	dBm	See note 5
Baud Rate	300	-	2400	Baud	
Start-up time	-	-	3500	ms	See note 2
Settling time	-	-	220	ms	See note 3
Output Logic Low	GND	-	0.04	V	
Output Logic High	Vcc-0.8V	-	+Vcc	V	
Output load (pin14)	47	-	-	kΩ	

#### 4.2.1 Notes:

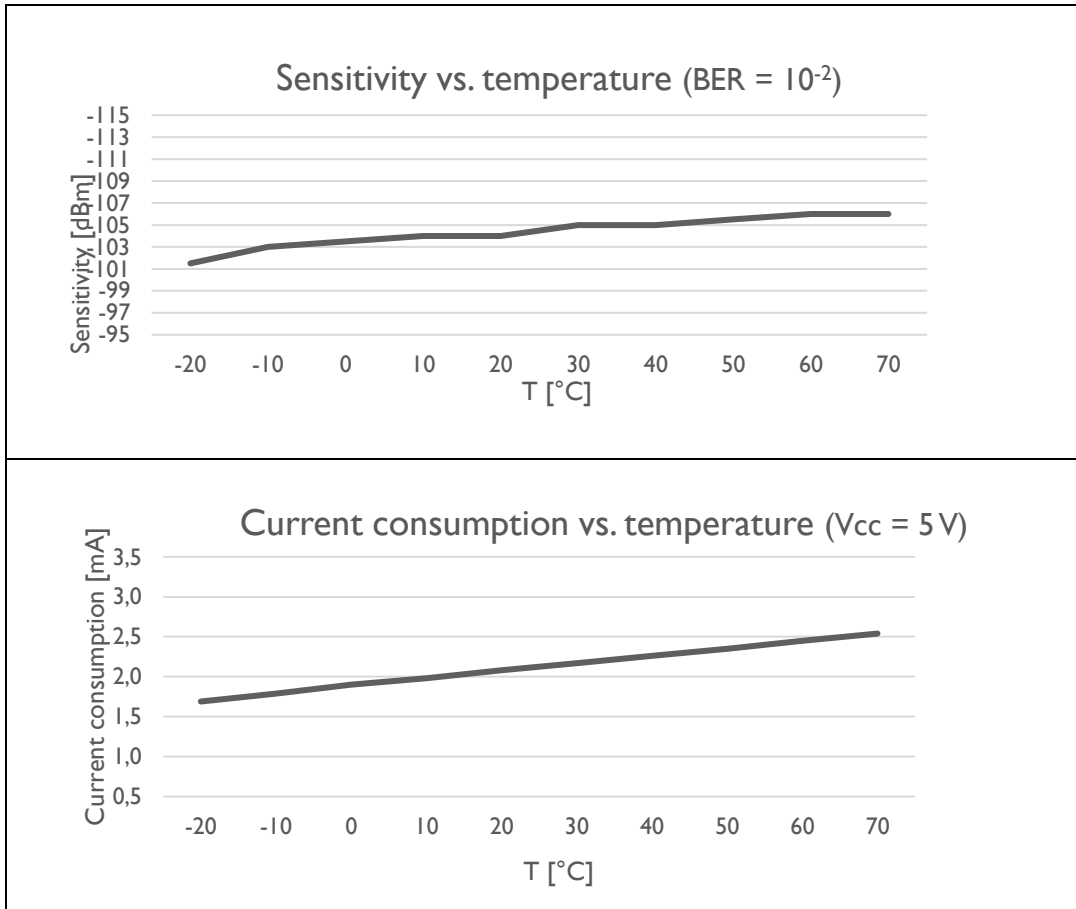
- Note 1:** Test signal AM pseudo random code NRZ (mod. depth 100%) 2400 Baud. Result at BER=10<sup>-2</sup> or better.
- Note 2:** Time by power-on to valid data reception.
- Note 3:** Time by test signal at RF input to valid data reception
- Note 4:** All RF parameters measured with input (pin 3) connected to 50-Ω impedance signal source or load
- Note 5:** No significant emission detected. As per ETSI 300 220-1, 5.9.3.3.1 “UNWANTED EMISSIONS IN THE SPURIOUS DOMAIN - Conducted measurement” and 5.9.3.3.2 “UNWANTED EMISSIONS IN THE SPURIOUS DOMAIN - Radiated measurement”; f < 1 GHz: < -57 dBm; f > 1 GHz: < -47 dBm

### Slicer Threshold Control

Output data-slicer threshold can be controlled connecting a resistor with values between 820 kΩ (-3 dB) and 270 kΩ (-10 dB) between Test Point and GND pins to decrease sensitivity (obtaining a muting effect on TTL output), or between Test Point and +Vcc increasing even further the sensitivity (about 2.7 MΩ, 3 dB). If pin 13 is used like audio output, the signal on Test Point has to be taken by means of a 100 nF decoupling capacitor in order to avoid to load the output.

### 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

## 6. Regulatory Approvals

Doc	Title	Description
32001252_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
1.1	06.10.2020	Final Release