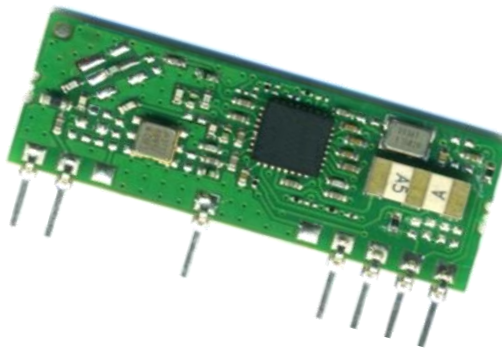


Wireless Transparent Modules Datasheet

32001366F

FSK SUPER HETERODYNE RECEIVER

Data Sheet



Overview

Low cost, high performance FSK Super Heterodyne receiver in the 868 MHz ISM 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	6
5.	Application Notes.....	7
6.	Regulatory Approvals.....	7
7.	Revision History.....	7

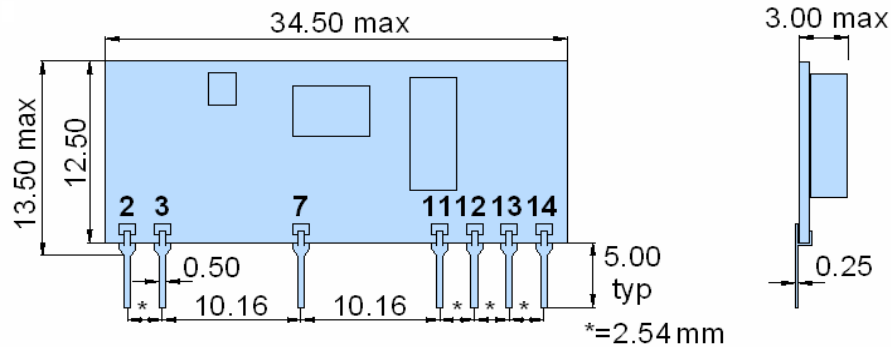
1. Description

This module is equipped with SAW FRONT END FILTER for a good out of band interference immunity. Thanks to an efficient embedded noise cancellation filter, a good noise reduction and restoration of received signal integrity are achieved, providing excellent performances. Suitable for all HCS, HT12 encodings and similar. RSSI output proportional to received signal level.

Wide supply voltage ranges from 2.1 to 5.5 V.

The module meets all the requirements in the industrial temperature range -40 / 85°C.

2. Mechanical Dimensions



3. Pin Definition

- 2 = GND
- 3 = RF Input (50 Ω)
- 7 = GND
- 11 = GND
- 12 = + Vcc
- 13 = RSSI Out
- 14 = TTL Output – Data OUT

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:	-40 ÷ 85	°C

4.2 Operating Condition

GENERAL ELECTRICAL CHARACTERISTICS @ 25 °C

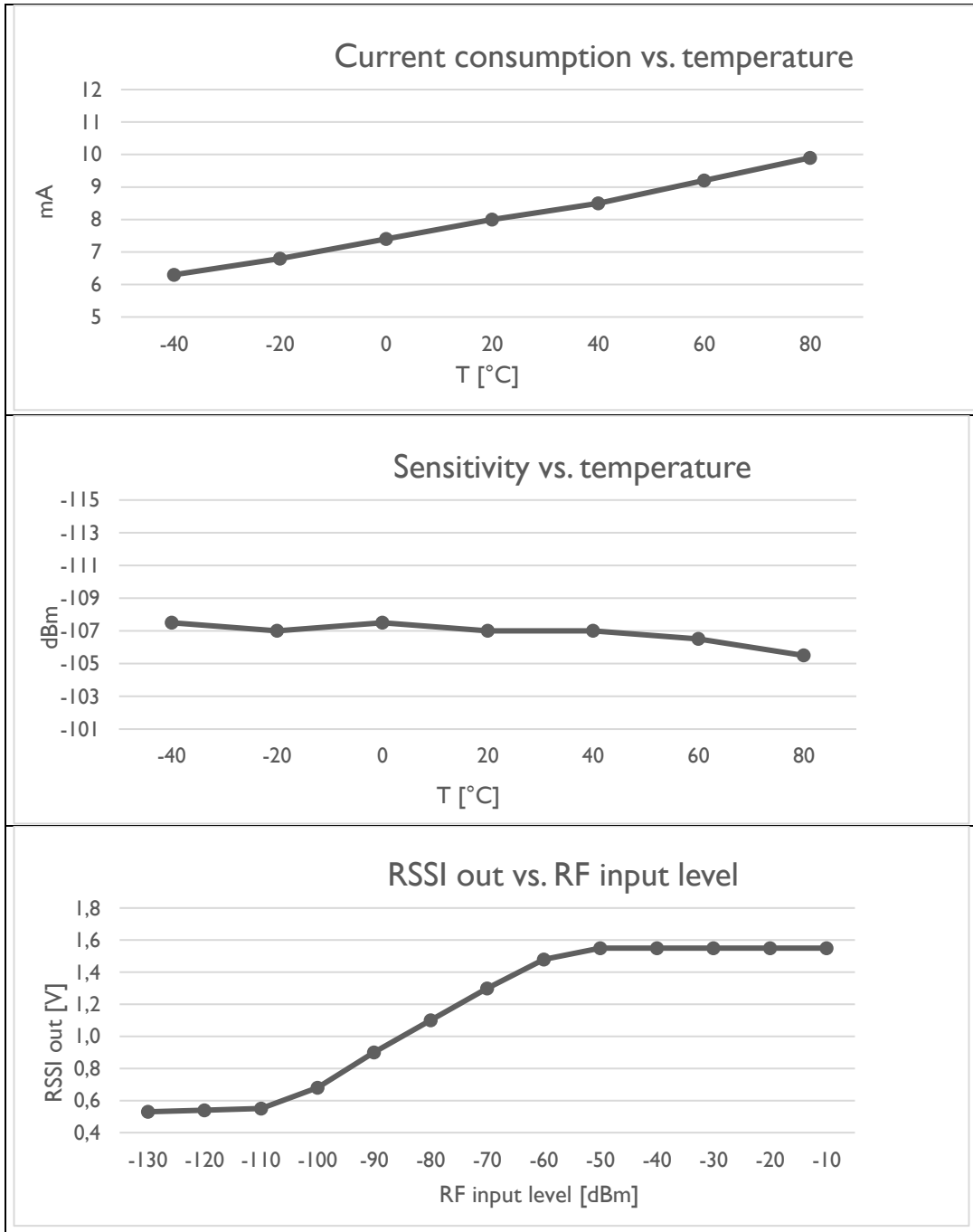
Parameter	Min.	Typ.	Max.	Unit	Notes
Supply Voltage (Vcc)	2.1	3.0	5.5	V	
DC Current Drain	-	8.5	-	mA	
Operating Frequency	-	868.3	-	MHz	
Sensitivity	-	-102	-	dBm	See note 1
RF Bandwidth (-3dB)	-	260	-	kHz	See note 5
Selectivity (-6dB)	-		-	kHz	See note 5
Selectivity (-60dB)	-		-	MHz	See note 5
FSK Deviation	±10	-	±100	kHz	See note 5
Image frequency rejection	-		-	dB	See note 6
Spurious Radiated Emissions	-	-	-57	dBm	See note 7
Baud Rate	300	-	38400	Baud	See note 2
Start-up time	-	-	15	ms	See note 3
Settling time	-	-	10	ms	See note 4
Output Logic Low	GND	-	0.1	V	
Output Logic High	+Vcc-0.1	-	+Vcc	V	
Output load (pin 14)	50	-	-	kΩ	

4.2.1 Notes:

- Note 1:** Test signal FSK pseudo random code NRZ (deviation ± 50 kHz) 9600 Baud. Result at BER=10⁻² or better.
- Note 2:** Max and min baud rate are measured with RF level 3dB above sensitivity limit.
- Note 3:** Time by power on to valid data reception
- Note 4:** Time by test signal at RF input to valid data reception
- Note 5:** All RF parameters measured with input (pin 3) connected to 50- Ω impedance signal source or load
- Note 6:** Measured as per ETSI 300 220-1, 5.17.3.3 "Spurious response rejection – Conducted measurement", test signal FSK 9600 Baud, ± 50 kHz, fi @ 412.52 MHz
- Note 7:** 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

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
32001366_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
1.4	07.10.2020	Final Release