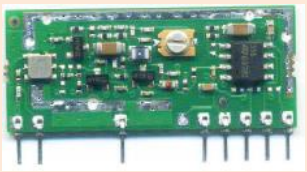
OOK/ASK SUPER-REGENERATIVE RECEIVER - 433.92 MHz Mod. CASCODE 5 V with FRONT END

Product Code: **32001117F**

lead-free

DESCRIPTION:

Super-regenerative ASK receiver manufactured in SMT technology on printed circuit board. Cascode input stage improves separation between antenna and oscillator-detector; the receive frequency tuning is achieved through a capacitive trimmer. Front end filter assures high level of rejection to out-of-band interferers.



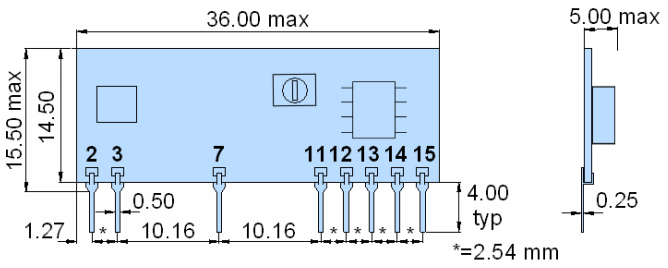
HIGHLIGHTS:

Developed according to **ETSI EN 300 220** European Standard.
Compliant with **REACH** and **RoHS** directives.

APPLICATIONS:

Anti-theft systems, door openers, security systems, data transmission, industrial controls and more.

MECHANICAL CHARACTERISTICS



Pin functions:

2 = GND
3 = RF Input (50 Ω)
7 = GND
11 = GND
12 = +Vcc
13 = T.P. / Slicer Threshold Control (see application note)
14 = TTL Data OUT
15 = +Vcc

ABSOLUTE MAXIMUN RATINGS

Supply voltage, +Vcc, pin 10, 12, 15:	8 V
Radio Frequency Input, pin 3:	10 dBm
Output pins voltage with respect to GND:	+Vcc
Storage Temperature:	-40 ÷ 100 °C
Operating Temperature:	-20 ÷ 70 °C

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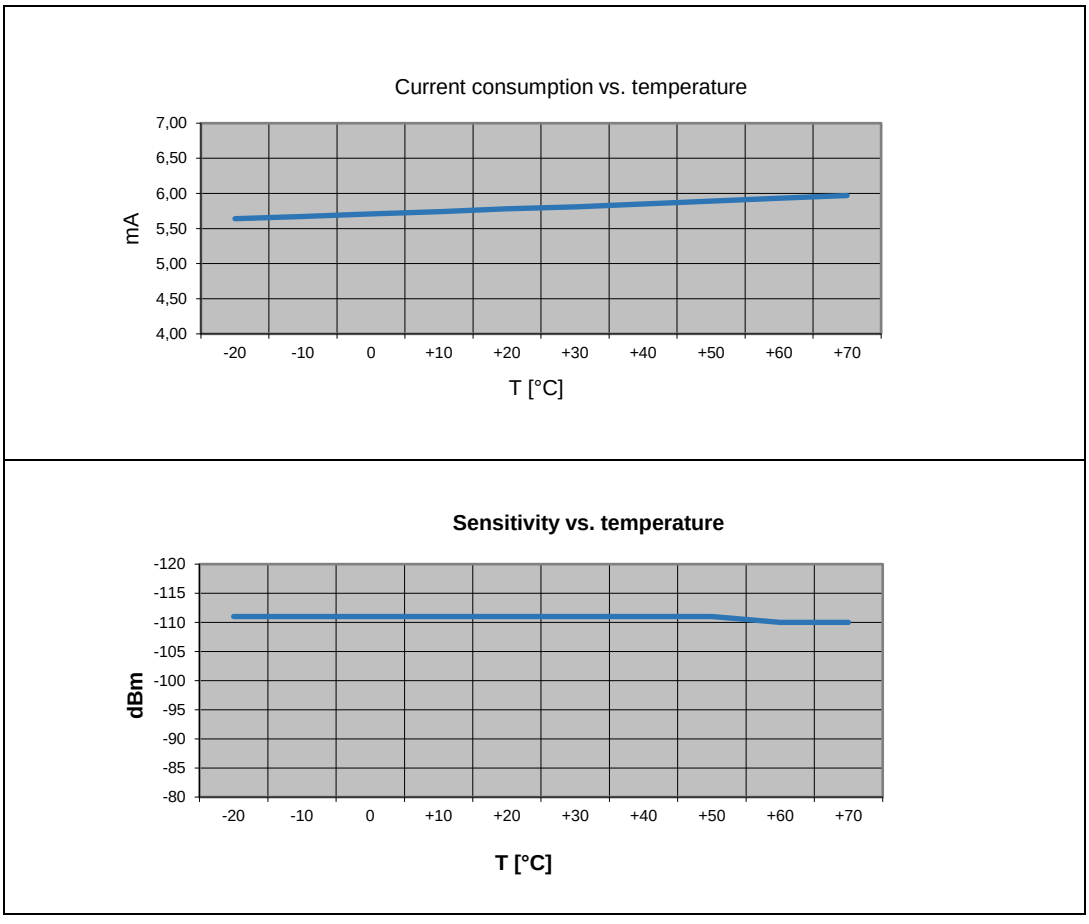
Cormons, November 11

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	4
Sensitivity	-	-102	-	dBm	1
-3 dB RF Bandwidth	-	750	1000	kHz	1
Spurious radiated level	-	-	-57	dBm	5
Baud rate	-	-	4800	Baud	
Start-up time	-	-	1500	ms	2
Settling time	-	-	150	ms	3
Output Logic low	0	-	0.05	V	
Output Logic high	3.8	-	Vcc – 0.2 V	V	
Output load (pin 14)	47	-	-	kΩ	

TYPICAL CHARACTERISTICS (*)

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



(*): All graphs must be considered as indicative typical results in accordance with temperature variation.

Note 1: *Test signal AM 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 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*

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APPLICATION NOTE

T.P. / Slicer Threshold Control pin use

Pin 13 (T.P. / Slicer Threshold Control) can be set as squelch setup for the TTL output (pin 14) or as simple analogic output:

- *To increase the squelch level, the "Output data-slicer threshold" can be set by connecting a resistor with values from 560 kΩ (3 dB) to 150 kΩ (10 dB) between T.P. (pin 13) and GND.*
- *To decrease the squelch level (up to 3 dB), connect a 1-MΩ resistor between T.P. and +Vcc.*
- *To use pin 13 as analogic audio output, use a 100-nF decoupling capacitor to bypass the DC component.*

REVISION HISTORY

Revision	Date	Description
1.2	18-05-2019	Final release

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