433.92 MHz SUPER-REGENERATIVE ASK RECEIVER

## Mod. "CASCODE+" – 5V VERSION / Cod. 3-2000810

DESCRIPTION:
Super regenerative ASK receiver manufactured in SMT technology on printed circuit.
Cascoded input stage improves separation between antenna and oscillator-detector; the receive frequency tuning is achieved through a lowered variable coil.
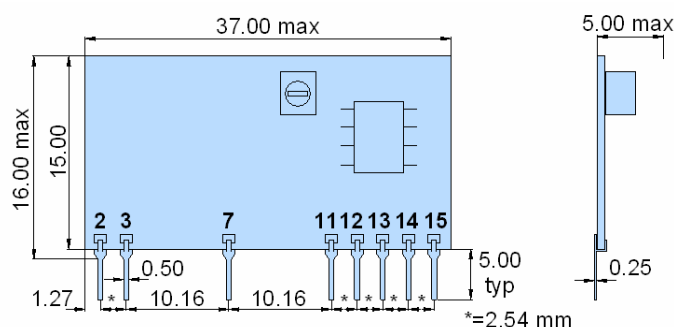
HIGHLIGHTS:
Developed according to I-ETS 300 220 e ETS 300 683 European Standard.

APPLICATIONS:
Anti-theft systems, door openers, security systems, data transmission and more.
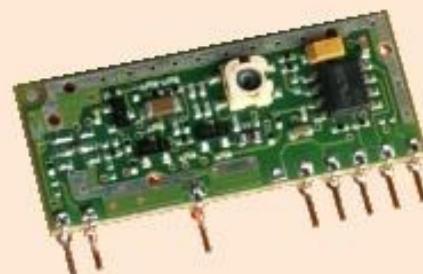
MECHANICAL CHARACTERISTICS

Pin functions

2 = GND
3 = RF Input (50 Ω)
7 = GND
11 = GND
12 = + 5 Vdc
13 = T.P. / Slicer Threshold Control(**)
14 = TTL Data Output
15 = + 5 Vdc

ABS: MAX: RATINGS

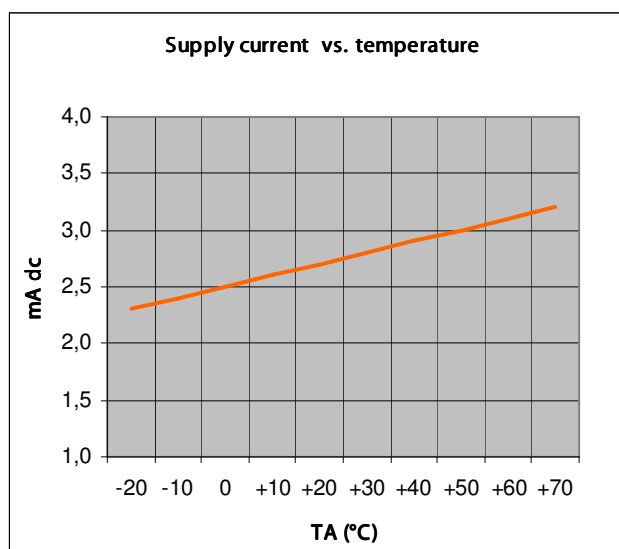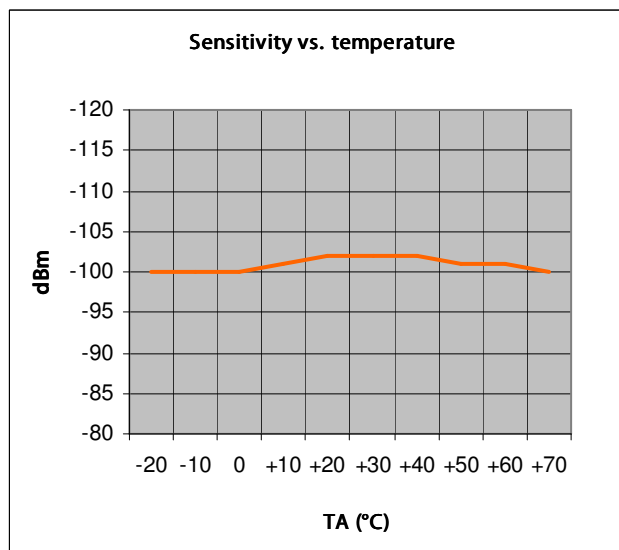|	
Power Supply, Vcc, PIN 12, 15:	+ 8 Volt
Radio Frequency Input, pin 3:	+ 10 dBm
Voltage of output pins with respect to GND:	+ Vcc
Storage Temperature:	- 40 ÷ + 100 °C
Operative Temperature:	- 20 ÷ + 80 °C

ELECTRICAL CHARACTERISTICS AT THE TEMPERATURE OF + 25 °C

Parameter	Min.	Typ.	Max.	Unit	Notes
Supply Voltage (Vcc)	4.5	5.0	5.5	Volt	
Current Supply	-	2.8	3.5	mA	
Receiver Frequency	-	433.92	-	MHz	
Sensitivity	-	-102	-	dBm	Note 1
RF Bandwidth -3dB	-	±1000	-	kHz	
Antenna Spurious RF Emission	-	-	-65	dBm	
Baud rate	-	-	4800	Baud	
Start-up Time	-	-	1500	ms	Note 2
Settling Time	-	-	150	ms	Note 3
Logic Low	0	0.02	0.05	Volt	
Logic High	Vcc-1.5V	3.8	-	Volt	
Max. output load (on Pin 14)	-	-	47	Kohm	

Mipot S.p.A. reserves the right to modify the specifications without notice.

Cormòns, 01.01.2008

TYPICAL CHARACTERISTICS (*)

Sensitivity vs. temperature

Supply current vs. temperature

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

Note 1:   AM modulation 100%, square wave, 1KHz frequency.
Note 2:   Time by power-on to valid data reception.
Note 3:   Time by activation after stand-by to valid data reception.
Note 4:   All RF parameters measured with input (pin 3) connected to 50 Ohm impedance signal source or load.

(**): APPLICATION NOTE

Output data-slicer threshold can be controlled connecting a resistor with values between 1MOhm (-2dB) and 150kOhm (-10 dB) between T.P. and GND pins to decrease sensitivity (obtaining a muting effect on TTL output), or between T.P. and +Vcc increasing even further the sensitivity (about 1MOhm, +3dB).
If pin 13 is used like audio output, the signal on T.P. has to be taken by means of a 100nF decoupling capacitor in order to avoid to load the output.

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