

# FSK RECEIVER – NARROW BAND CLASS 1 - 869.2125 MHz

Cod. 3-2000887

**PRELIMINARY****DESCRIPTION:**

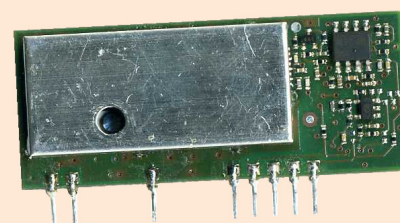
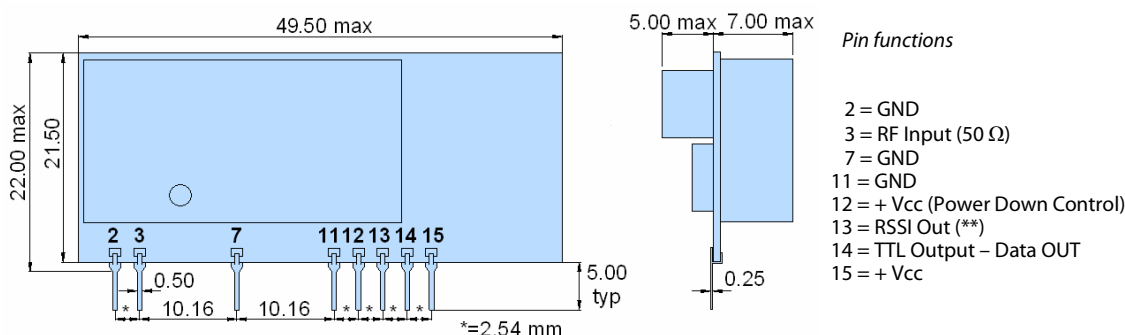
Narrow band FSK receiver, manufactured in SMT technology on printed circuit. Includes an LNA input stage and a microcontroller to implement advanced functions.

**HIGHLIGHTS:**

Excellent sensitivity, selectivity, interference rejection and stability; RSSI output proportional to received signal strength. Developed according to I-ETS 300 220 European Standard. Class 1.

**APPLICATIONS:**

Social alarms, telemetry, ecc...

**MECHANICAL CHARACTERISTICS****ABS. MAX. RATINGS:**

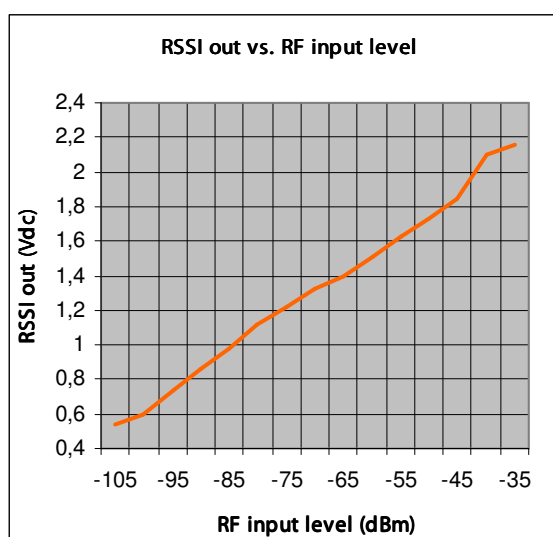
Power Supply, Vcc, PIN 12, 15:	+ 6 Volt
Radio Frequency Input, pin 3:	+ 10 dBm
Output pins voltage with respect to GND:	+ Vcc
Storage Temperature:	- 40 ÷ + 100 °C
Operating Temperature:	0 ÷ + 55 °C

**ELECTRICAL CHARACTERISTICS AT THE TEMPERATURE OF + 25 °C**

Parameter	Min.	Typ.	Max.	Unit	Notes
Supply Voltage (Vcc)	3.3	-	5.5	Volt	
Current Supply	24.6	25	27	mA	
Receiver Frequency	-	869.2125	-	MHz	Note 1
Overall Frequency Accuracy	-	±1	-	kHz	
Sensitivity	-	-107	-	dBm	Note 2
Image Frequency Rejection	≥ -44	-30	-	dBm	Note 3
Adjacent Channel Selectivity	≥ -44	-32	-	dBm	Note 4
Adjacent Channel Saturation	≥ -20	0	-	dBm	Note 5
Intermodulation Rejection	≥ -39	-	-	dBm	Note 6
Blocking	≥ -20	-	-	dBm	Note 7
Saturation	≥ -10	+10	-	dBm	Note 8
Conducted and Radiated Spurious Emissions	-	-	-	Within the limits specified by norms	Note 9

Parameter	Min.	Typ.	Max.	Unit	Notes
RF Bandwidth -3dB	-	12.5	-	kHz	
Baud rate	300	-	2400	Baud	Note 10
Start-up Time (Vcc from 0 to 5V)	-	-	80	ms	Note 11
Start-up Time (Power-Down / On)	-	-	75	ms	Note 12
Settling Time	-	-	8	ms	Note 13
RSSI Out Settling Time (pin 13)	-	-	5	ms	Note 14
Logic Low	GND	-	0.05	Volt	
Logic High	Vcc-0.05	-	Vcc	Volt	
Power -Down Supply Current	-	-	0.4	$\mu$ A	
Output Impedance (Pin 14)	50	-	-	Kohm	

## TYPICAL CHARACTERISTICS (\*)



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

**Note 1:** On demand it's possible to realize receivers with different center frequency.

**Note 2:** FM modulation 100%, square wave, 1KHz frequency (frequency deviation 2.5 kHz). Compliant with the limit specified by ETSI EN 300-220-1 V 2.1.1 (2006-04) par. 9.1.4

**Note 3:** Measurement compliant with the limit specified by ETSI EN 300-220-1 V 2.1.1 (2006-04) par. 9.6.3

**Note 4:** Measurement compliant with the limit specified by ETSI EN 300-220-1 V 2.1.1 (2006-04) par. 9.3.3.1

**Note 5:** Measurement compliant with the limit specified by ETSI EN 300-220-1 V 2.1.1 (2006-04) par. 9.3.3.2

**Note 6:** Measurement compliant with the limit specified by ETSI EN 300-220-1 V 2.1.1 (2006-04) par. 9.5.3

**Note 7:** Measurement compliant with the limit specified by ETSI EN 300-220-1 V 2.1.1 (2006-04) par. 9.4.3.1

**Note 8:** Measurement compliant with the limit specified by ETSI EN 300-220-1 V 2.1.1 (2006-04) par. 9.4.3.2

**Note 9:** Measurement compliant with the limit specified by ETSI EN 300-220-1 V 2.1.1 (2006-04) par. 9.7.5

**Note 10:** Defines minimum and maximum impulse duration to assure a correct reception. 300 Baud and 2400 Baud correspond respectively to 150Hz and 1200Hz frequencies.

**Note 11:** Time by power-on to valid data reception. Measured at a level 3dB over the maximum available sensitivity.

**Note 12:** Time by activation after stand-by to valid data reception. Measured at a level 3dB over the maximum available sensitivity.

**Note 13:** Time by no-signal/strong signal (+30dBm) transition on input pin to valid data reception.

**Note 14:** Time by no-signal/strong signal (+30dBm) transition on input pin to valid signal level on RSSI Out (pin 13).

**Note 15:** All RF parameters measured with input (pin 3) connected to 50 Ohm impedance signal source or load.

**Note 16:** Pin 12 must be tied to 0 Volt to enter power-down mode while keeping pin 15 to + Vcc.

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