

# FSK MULTICHANNEL TRANSCEIVER 868.30MHz BAND

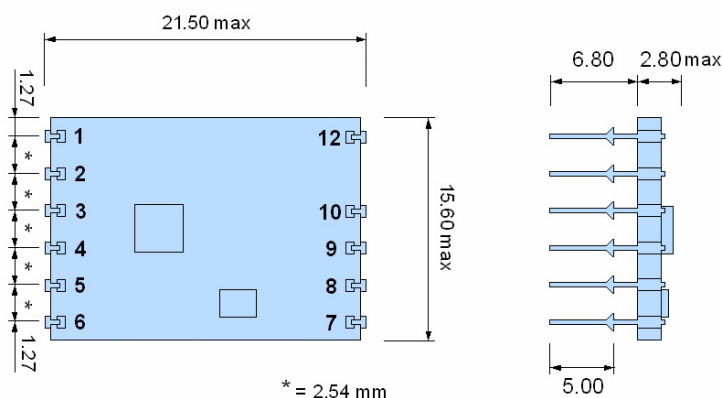
P.n. 3-2000985

**PRELIMINARY****DESCRIPTION:**

The 3-2000985 transceiver module is a multichannel transceiver completely programmable operating in the 868-870 MHz band. The transceiver is based on CC1101 RF IC manufactured by Texas Instruments; for programming instructions see the related datasheet of the CC1101 chip.

**MAIN CHARACTERISTICS:**

- 50 Ohm RF Input/Output
- SPI interface for the setup of the transceiver

**MECHANICAL CHARACTERISTICS****PIN DESCRIPTION**

Pin	Name	Description
1	SI	SPI interface → Data Input
2	SCLK	SPI interface → Clock
3	SO	SPI interface → Data Output
4	GDO2	Generic I/O
5	GDO0	Generic I/O
6	CSn	SPI interface → Chip Select
7	GND	Ground (0V)
8	GND	Ground (0V)
9	GND	Ground (0V)
10	RF I/O	RF Input/Output
12	VCC	Voltage supply

## ABSOLUTE MAX. RATINGS

Transceiver Supply Voltage +Vdd (pin 12)	+ 3.9 V
Maximum supply voltage on digital pins (pins 1 ÷ 6)	Vdd + 0.3 V, max. 3.9 V
Max RF Input signal	+ 10 dBm
Operating Temperature	- 20 ÷ + 70° C
Storage Temperature	- 40 ÷ + 100° C

## ELECTRICAL CHARACTERISTICS ( SEE NOTE 1 ):

Parameter	Min.	Typ.	Max.	Unit	Notes
Transceiver Supply Voltage +Vdd (pin 12)	1.8	3.0	3.6	V	
Current Consumption	Power Down	-	0.2	µA	
	Transmission	-	35	mA	
	Reception	-	18	mA	Note 2
Vlow on Input pins	0	-	0.7	V	
Vhigh on Input pins	Vdd-0.7	-	Vdd	V	
Vlow on Output pins	0	-	0.5	V	Note 3
Vhigh on Output pins	Vdd-0.3	-	Vdd	V	
Baud Rate	1.2	-	500	kBaud	Note 4
<b>Receiver electrical characteristics:</b>					
Sensitivity	-	-107	-	dBm	Note 5
Centre frequency	-	868.30	-	MHz	Note 6
Precision of centre frequency	-	±25	-	kHz	Note 7
Digital filter bandwidth	58	-	812	kHz	Note 4
<b>Transmitter electrical characteristics:</b>					
Power Output	-	+10	-	dBm	
Centre Frequency	-	868.30	-	MHz	
Precision of centre frequency	-	±25	-	kHz	Note 7
Deviation Δf	±1.5	-	±380	kHz	Note 4

**Note 1:** All RF parameters measured with RF Input/Output (pin 10) connected to 50 Ohm impedance signal source or load, 3.0V voltage supply, at 25°C room temperature if not otherwise specified.

**Note 2:** Measured at the RF input sensitivity limit, 1.2kBaud, register settings for sensitivity optimization.

**Note 3:** Voltage levels guaranteed up to a maximum pin output current of 4mA.

**Note 4:** Parameter programmable by user. Limit and intermediate values dependent on crystal quartz value (26MHz).

**Note 5:** Measured with 2-FSK modulation, 1.2kBaud square wave, register settings for sensitivity optimization, deviation ±5.2kHz, 58kHz digital filter bandwidth.

**Note 6:** Centre frequency programmable by user in the 868MHz band.

**Note 7:** Tolerances defined on temperature and voltage limit operating conditions.

**Note 8:** Further information on operating and programming modes for the radio chip can be found on the CC1101 datasheet downloadable from: <http://focus.ti.com/docs/prod/folders/print/cc1101.html>

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