

FSK MULTICHANNEL TRANSCEIVER 433.92 MHz BAND

Product Code: **32000985**



DESCRIPTION:

The 32000985 transceiver module is a multichannel transceiver completely programmable operating in the 434 MHz band. The transceiver has based on CC1101 RF IC manufactured by Texas Instruments; for programming instructions see the related datasheet.

HIGHLIGHTS:

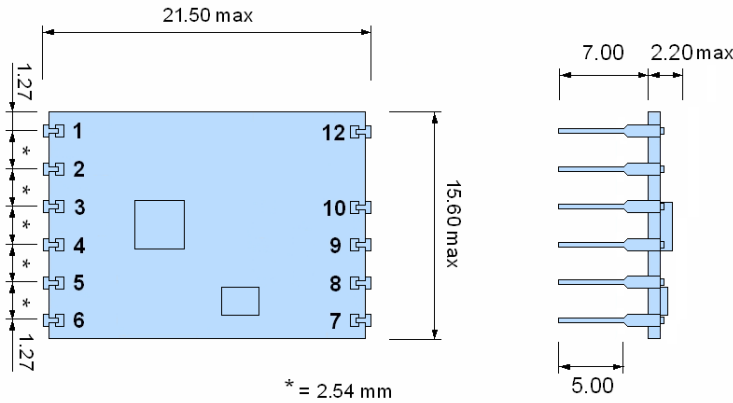
50 Ω RF Input/output.
 SPI interface for the setup of the transceiver.
 Developed according to **ETSI EN 300 220** European Standard.
 The module meets with the Radio Equipment Directive (**RED**) **2014/53/EU**.
 Compliant with **REACH** and **RoHS** directives.



APPLICATIONS:

Security systems, data transmission, industrial controls, home automation, etc.

MECHANICAL CHARACTERISTICS



PIN DESCRIPTION			
Pin	Name	Description	
1	SI	SPI interface → Data Input	Note 8
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 (0 V)	
8	GND	Ground (0 V)	
9	GND	Ground (0 V)	
10	RF I/O	RF I/O	
12	VCC	Voltage power supply	

2.3

ABSOLUTE MAXIMUM RATINGS

Transceiver Power Supply +Vcc (pin 15)	3.9 V
Max. Voltage allowed on input pins (pins 1 ÷ 6)	+Vcc + 0.3 V, max. 3.9 V
Storage Temperature	-40 ÷ 100 °C
Operating Temperature	-20 ÷ 70 °C
Radio Frequency Input, pin 2:	10 dBm

ELECTRICAL CHARACTERISTICS @ 25 °C

Parameter	Min.	Typ.	Max.	Unit	Notes	
Power Supply Voltage (+Vcc)	1.8	3.0	3.6	V	Note 8	
Supply Current	Tx mode	-	30	-	mA	
	Rx mode	-	18	-	mA	Note 2
	Power down	-	0.2	-	µA	
V _{low} on Input pins	0	-	0.7	V		
V _{high} on Input pins	Vcc - 0.7 V	-	Vcc	V		
V _{low} on Output pins	0	-	0.5	V	Note 3	
V _{high} on Output pins	Vcc - 0.3 V	-	Vcc	V	Note 3	

RECEIVER CHARACTERISTICS @ 25 °C

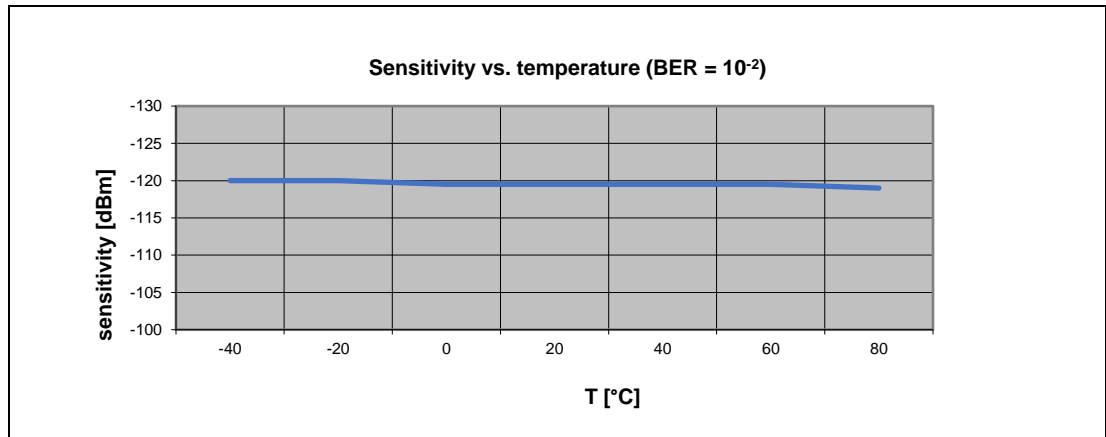
Sensitivity	-	-108	-	dBm	Note 5
Operating frequency	-	433.92	-	MHz	Note 6
Frequency accuracy	-	±15	-	kHz	Note 7
Digital filter bandwidth	58	-	812	kHz	Note 4
FSK Deviation	±1.5	-	±380	kHz	Note 4
Baud rate RF	1.2	-	500	kBaud	Note 4

TRANSMITTER CHARACTERISTICS @ 25 °C

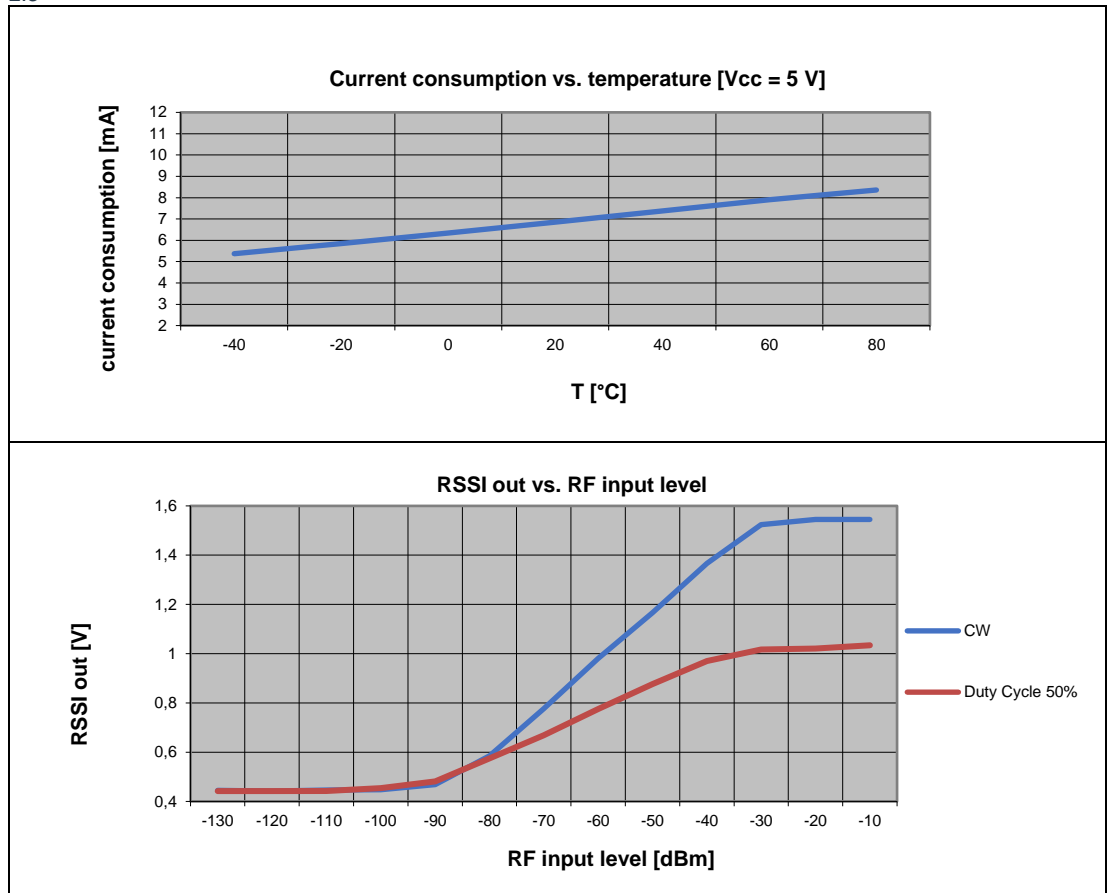
Output Power (on 50 Ω load)	-	+10	-	dBm	Note 1
Operating Frequency	-	433.92	-	MHz	
FSK Deviation	±1.5	-	±380	kHz	Note 4
Frequency accuracy	-	±15	-	kHz	Note 7
Baud rate RF	1.2	-	500	kbaud	Note 4

TYPICAL CHARACTERISTICS (*)

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



2.3



2.3

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

Note 1: All RF parameters measured with RF I/O (pin 10) connected to 50-Ω impedance signal source or load, 3 V power supply if not otherwise specified.

Note 2: Measured at the RF input sensitivity limit, 1200 baud, register settings for sensitivity optimization.

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

Note 4: Parameter programmable by user. Values also depending on crystal value (26 MHz).

Note 5: Measured with 2-FSK modulation, 1200-baud dev. 5.2 kHz register settings for sensitivity optimization, 58 kHz digital filter bandwidth.

Note 6: Center frequency programmable by user in the 434 MHz 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 available for the CC1101 datasheet at:
<http://focus.ti.com/docs/prod/folders/print/cc1101.html>

APPLICATION NOTE

N.A.

REVISION HISTORY

Revision	Date	Description
2.3	27-08-2019	Final release