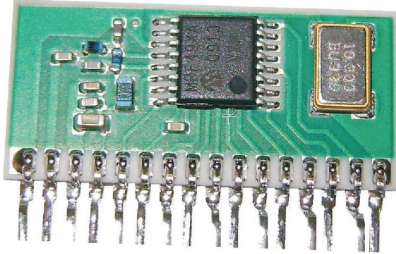


RXQ5-XXX

Sub 1GHz Multichannel FSK Radio Transceiver



General description

The RXQ5-XXX is a low-cost sub 1GHz radio transceiver FSK designed for very low-power wireless applications, based on the MRF49XA device (Microchip).

The circuit is mainly intended for the ISM (Industrial, Scientific and Medical) and SRD (Short Range device) frequency bands at 433, 868, and 915 MHz.

The RXQ5 is an ideal choice for low-cost, high-volume, low data rate (<256 kbps), two-way, wireless short range applications.

The transceiver can be interfaced with many popular microcontroller via a 4-wire SPI, interrupt (IRQ) and Reset, to minimize the system cost, the RXQ5 can provide a clock signal for the microcontroller, avoiding the need of two crystals on the circuit board.

The RXQ5 is integrated with different Sleep modes and an internal wake-up timer to reduce the overall current consumption, and to extend the battery life. The device small size with low-power consumption make it ideal various for short range radio applications.

Applications

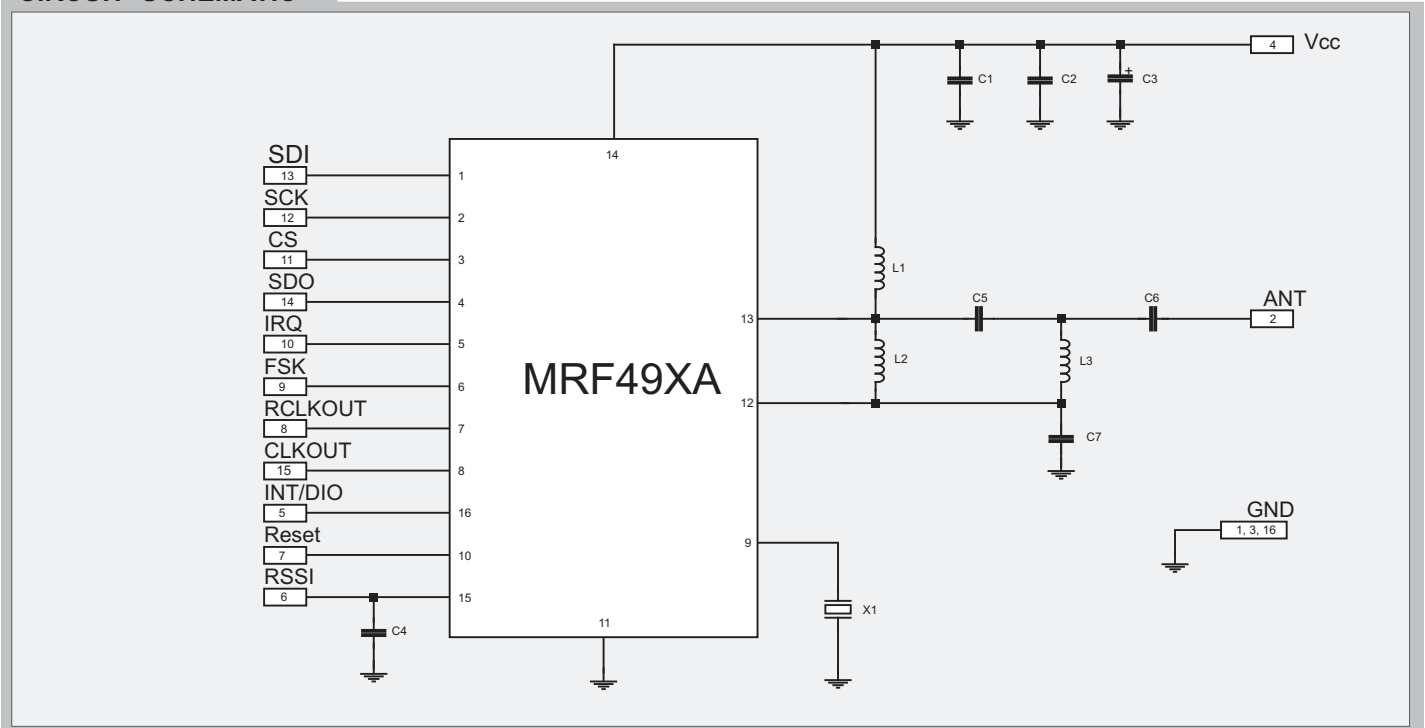
- Wireless alarm and security systems
- Home and building automation
- AMR - Automatic Meter Reading
- Wireless Sensor networks
- Industrial monitoring and control

Features

- High Reliability
- SIL Package

XXX: custom-specified working frequency
(433.92, 868 - 915 MHz)

CIRCUIT SCHEMATIC



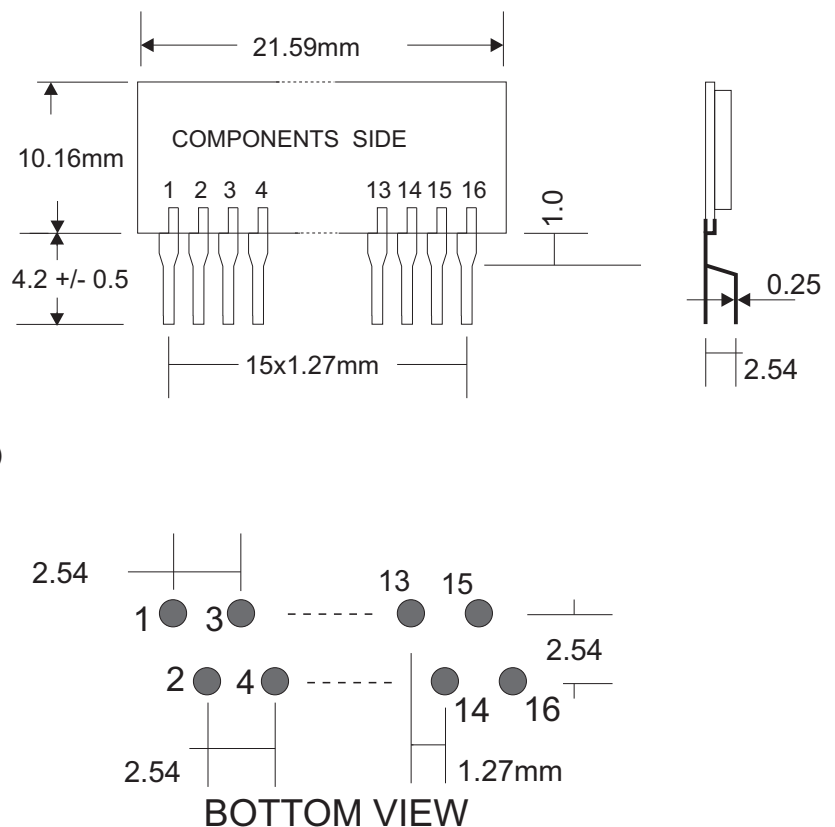
Electrical Characteristics (ref. to MRF49XA Data Sheet for more informations)

CHARACTERISTICS		MIN	TYP	MAX	UNIT
V _{CC}	Supply Voltage	2.2	3	3.8	VDC
I _s	Supply Current (RX mode / TX mode)		11 / 15		mA
I _s	Supply Current (Power Down mode)		0.3		uA
P _o	RF Output Power into 50Ω		7		dBm
	RF Sensitivity (1.2 Kb/sec Data Rate)		-112		dBm
	Max Data Rate			256	Kbit/s
	StartUp Time (Sleep to RX/TX mode)		250		usec
	RSSI Range		46		dBm
	RSSI Error			6	dBm
T _{OP}	Operating Temperature Range	-25		+80	°C

Pin Description

1	GND	Ground
2	ANT	Antenna
3	GND	Ground
4	VCC	Supply Voltage
5	nINT/DIO	Interrupt/Digital I/O
6	RSSIO	Received Signal Strength Indicator Output
7	nRESET	Reset Active-low
8	RCLKOUT/FCAP/FINT	Recovery Clock Output
9	FSK/DATA/FSEL	Frequency Shift Keying
10	nIRQ	Interrupt Request Output
11	nCS	Serial Interface chip select(SPI)
12	SCK	Serial clock interface (SPI)
13	SDI	Serial data input interface (SPI)
14	SDO	Serial data output interface (SPI)
15	CLKOUT	Clock Output
16	GND	Ground

Mechanical Dimensions



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