

# R43305

433.920 MHz ASK RADIO DATA RECEIVER

## Features

- Receives digital data
- Baud rates 300 - 4800bps
- Low cost, small size, low current consumption

## Application

- Telecommand Systems
- Security Systems
- Alarms
- Radio Data Communications
- Commercial / Industrial Telemetry



## Description

The R43305 is a radio data receiver to receive digital data. Baud rates of 300 to 4800 bps can be received. The low cost, small size, low current consumption makes it ideal for various applications.

## Technical Data

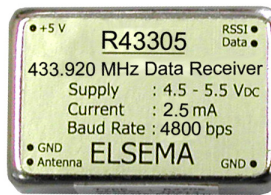
Supply Voltage	4.5 - 5.5 VDC Absolute maximum 6.5VDC.
Current Consumption	2.5mA
Receiver Type	Single Conversion Superheterodyne
Receiving Freq	433.920MHz (Other frequencies available on request. Refer to the table below )
Oscillation System	VCO with 10ppm Crystal Controlled reference Oscillator
Operating Temperature Range	-5 to 50°C
IF Freq	320KHz
Selectivity	-3dB at ±20kHz
Sensitivity	Better than -107dBm or 1µV
Type of Demodulation	Amplitude Shift Keying. (ASK)
Baud Rate	300 to 4800 bps with 50% duty cycle
Data Output Level	0-5V
Frequency Response	150 to 2400 Hz with 50% duty cycle (Other duty cycles will degrade sensitivity)
Dimension	39 x 25 x 12mm
Weight	15 grams
Usable Transmitter	T433 Data Transmitter
Antenna	50 ohms, 433MHz Antenna

**Available Frequencies**

SF2	433.664 MHz
SF3	433.408 MHz
SF4	433.152 MHz
SF5	434.688MHz
SF6	434.432 MHz

**Special Frequency products can be made upon request. There is a minimum quantity order of 10. Please quote Correct SF number when ordering transmitters on special frequencies.**

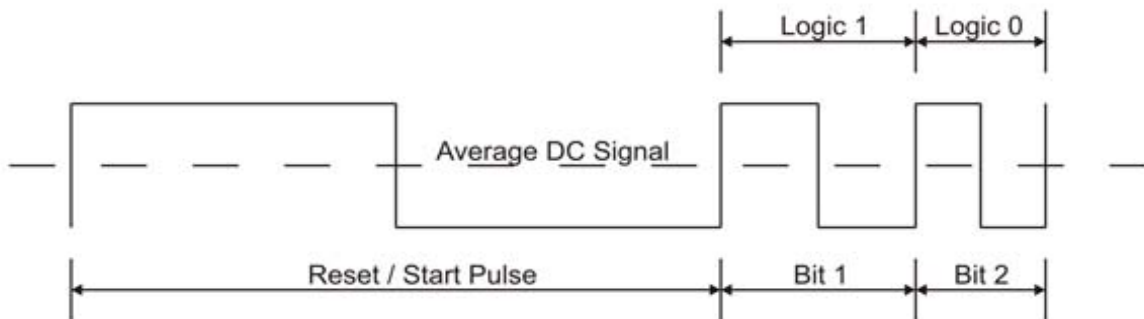
**Connections**



**R43305 Data Format**

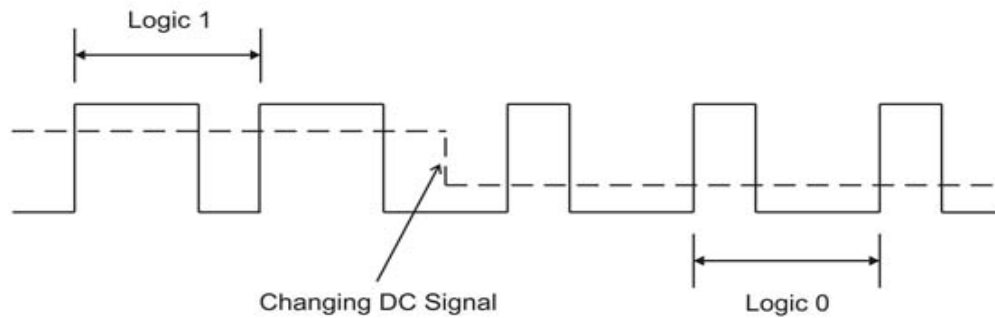
It is important to input the correct data format otherwise the receiver will have a lower sensitivity which will result in a reduced transmission range.

The R43305 receiver data slicer is set for 50/50-duty cycle, therefore the “data in” should have a 50/50-duty cycle. The 50/50-duty cycle data can be pulse-width modulated to transmit resets, 0's or 1's. See diagram below :



A 50/50-duty cycle will have an average DC signal resulting in a constant reference for the data slicer. Users should use pulse-width modulation to transmit data with logic 1's or 0's.

If a different duty cycle is used, for example 66/33 ( Manchester format) the data slicer in the receiver will try to adjust itself to the average DC signal. Since this average DC signal is changing with different data bits this will result in a constantly changing reference for the data slicer, resulting in lower sensitivity. See diagram below :



\*Only 50/50 duty cycle data is suitable for the T433 transmitter and R43305 receiver.

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