

# R15105

151.600MHz FSK Radio Data Receiver

## Features

- Receivers digital data
- Baud rates 40 - 4800bps
- Low cost, small size, low current consumption

## Application

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



## Description

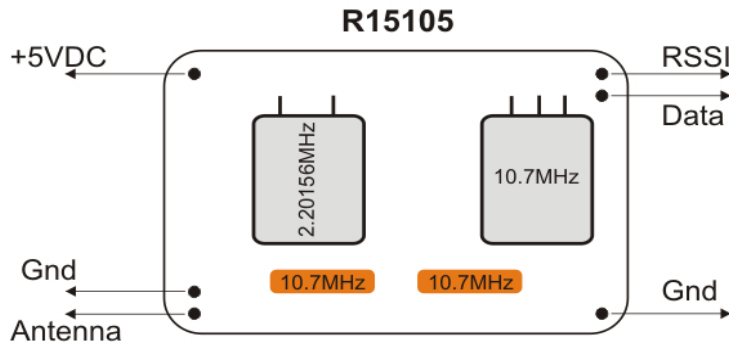
The R15105 is a radio data receiver to receive digital data. Baud rates of 40 to 4800 bps can be received. The low cost, small size, low current consumption makes it ideal for various applications.

There are 8 selectable frequencies available. This is achieved by Changing Crystals on special frequencies.

## Technical Data

Supply Voltage	4.5 - 5.5 VDC Absolute maximum 6.5VDC.
Current Consumption	10mA
Receiver Type	Single Conversion Superheterodyne
Receiving Freq	151.6MHz (8 selectable frequencies within 150.900 - 151.600MHz with 100KHz spacing available).
Oscillation System	VCO with 10ppm Crystal Controlled reference Oscillator
Operating Temperature Range	-5 to 50°C
IF Freq	10.7 MHz
Selectivity	Better than -6 dB at + - 25 KHz
Image Rejection	Better than -640dB at 130.200
Sensitivity	-107dBm or 1µV
Type of Demodulation	Narrow-band-width Frequency Modulation. (FM)
Occupied Band Width	25KHz at -20dB.
Baud Rate	40 to 4800 bps with 50% duty cycle
Data Output Level	0-5V
Frequency Response	20 to 2400Hz
Dimension	39 x 25 x 12mm
Weight	22 grams
Usable Transmitter	T15105 Data Transmitter
Antenna	50 ohms, 151MHz Antenna

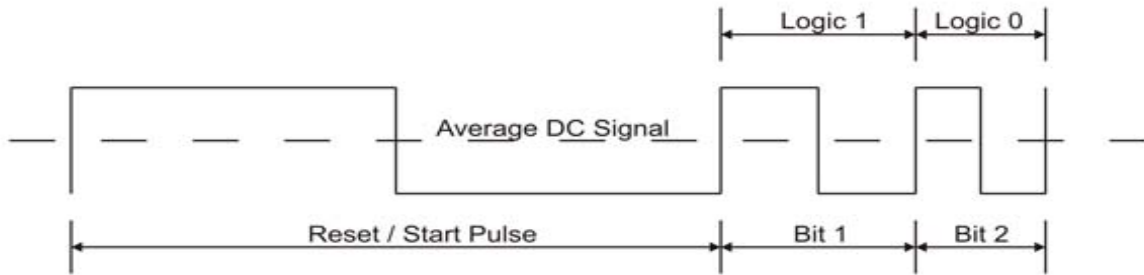
**Connection**



**R15105 Data Format**

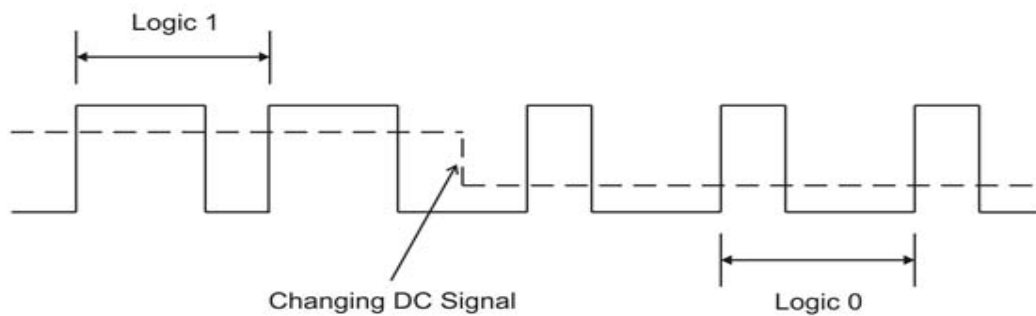
It is important to input the correct data format otherwise the receiver will have a lower sensitivity which will result in a reduced transmission range.

The R15105 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 T15105 transmitter and R15105 receiver.

**Manufactured by**

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