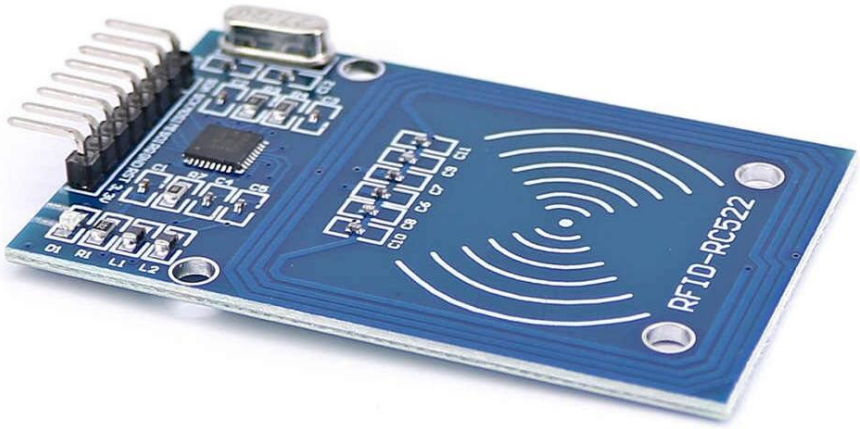
RFID RC522
Reader Writer Module



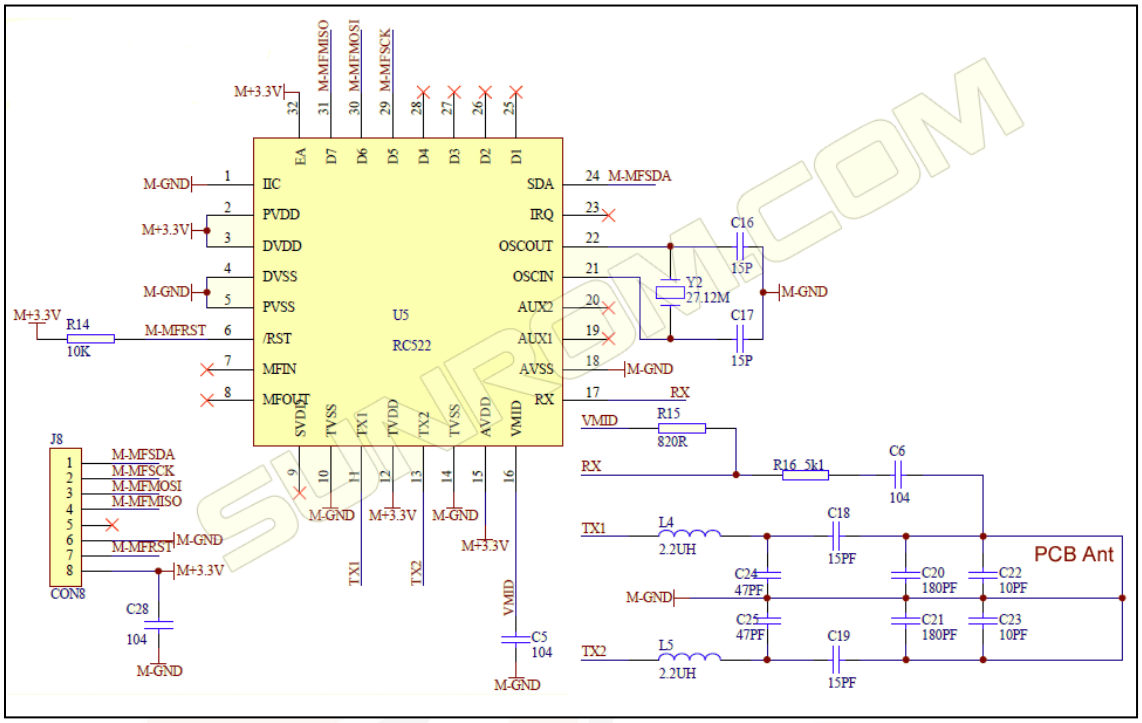
Description:

The RC522 is a 13.56MHz RFID module that is based on the MFRC522 controller from NXP semiconductors. The module can support I2C, SPI and UART and normally is shipped with a RFID card and key fob. It is commonly used in attendance systems and other person/object identification applications.

Features:

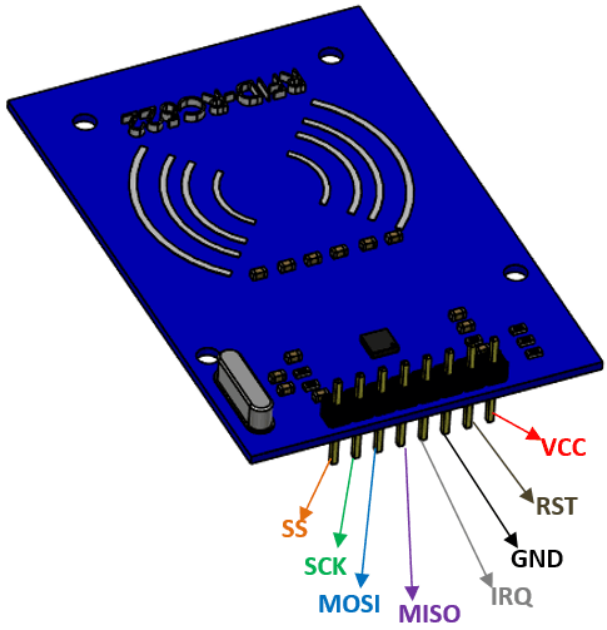
1. 13.56MHz RFID module
2. Operating voltage: 2.5V to 3.3V
3. Communication: SPI, I2C protocol, UART
4. Maximum Data Rate: 10Mbps
5. Read Range: 5cm
6. Current Consumption: 13-26mA
7. Power down mode consumption: 10uA (min)

Schematic Diagram:



- The RC522 is an RF Module that consists of an RFID reader, RFID card and a key chain. The module operates 13.56MHz which is industrial (ISM) band and hence can be used without any license problem. The module operates at 3.3V typically and hence commonly used in 3.3V designs. It is normally used in applications where certain person/object must be identified with a unique ID.
- The keychain has 1kB memory in it which can be used to store unique data. The RC522 reader module can both read and write data into these memory elements. The reader can read data only from passive tags that operate on 13.56MHz.
- The RC522 has an operating voltage between 2.5V to 3.3V and hence is normally powered by 3.3V and should be used with 3.3V communication lines. But the communication pins of this module are 5V tolerant and hence it can be used with 5V microcontrollers also like Arduino without any additional hardware. The module supports SPI, IIC and UART communication but out of these SPI is often used since it is fasted with a maximum data rate of 10Mbps.
- Since in application, most of the time reader module will be waiting for the tag to come into proximity. The Reader can be put into power down mode to save power in battery operated applications. This can be achieved by using the IRQ pin on the module. The minimum current consumed by the module during power down mode will be 10uA only. The module can be easily used with Arduino because of its readily available RC522 RFID Arduino library from Miguel Balboa. You can visit his GitHub page for more details on how to use it with Arduino.

Pin Function:



Pin Number	Pin Name	Description
1	VCC	Used to Power the module, typically 3.3V is used
2	RST	Reset pin – used to reset or power down the module
3	Ground	Connected to Ground of system
4	IRQ	Interrupt pin – used to wake up the module when a device comes into range
5	MISO/SCL/Tx	MISO pin when used for SPI communication, acts as SCL for I2c and Tx for UART.
6	MOSI	Master out slave in pin for SPI communication
7	SCK	Serial Clock pin – used to provide clock source
8	MOSI	Acts as Serial input (SS) for SPI communication, SDA for IIC and Rx during UART

Outer Dimension: