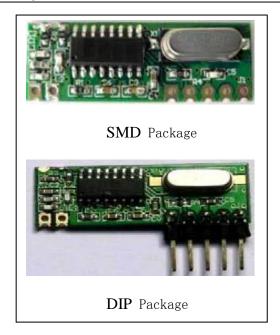


RFM83 Series ASK/OOK Super-heterodyne receiver module

1. General Description

RFM83 series module are low cost superheterodyne receiver module based on RF83 chip, working at frequency 315Mhz and 433.92Mhz (We can customize other frequency 300Mhz and 440Mhz). The operating voltage is 2.1V-3.6V (RFM83L) and 3.6V-5.5V (RFM83). The module can be widely applied to various types of data transmission system. It provides two additional functional pins: (1)Enable pin: allow the module to switch between work status and sleep status in order to reduce overall power consumption. (2)wake-up output: when RF signal input, it provides and output signs.

(This datasheet only describes the basic functions and Electrical Characteristics of the module. For more details , please refer to the RF83 chip datasheet .)



2. Main Features

- Low cost, low power consumption, Cost-effective
- Transmission Data Rate: 0.3-2.5KHz (factory default)
 Data Rate can be set to Max. 10khz based on customer requirements
- The operating voltage: RFM83 :3.6V-5.5V

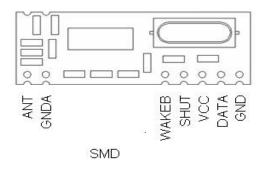
RFM83L:2.1V-3.6V

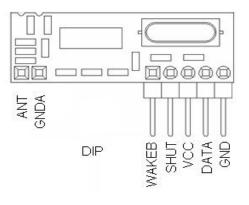
- The operating current: 3mA@RFM83 315MHz
- Sleep current: ≤0.9uA
- Sensibility:-108dBm
- The operating frequency: 315MHZ, 433. 92MHZ
- SMD and DIP Package

3. Applications

- Wireless data transmission
- Home Automation
- Remote Alarm System

4. Pin Definition







| Pin Name | Pin definition |
|----------|---|
| ANT | RF signal input pin, connect antenna |
| GNDA | unconnected or connect with negative |
| WAKEB | Wake-up output pin |
| SHUT | Enable pin, when low logic level, the module work, when high logic level, the module sleep. |
| VCC | Connect with power supply |
| DATA | Data ouput pin |
| GND | connect with negative |

5. Electrical Characteristics

| Parameter | Condition | Min. | Typical | Max. | Unit |
|--------------------------|---------------------|------|---------|------|---------------|
| Operating | RFM83 | 3. 6 | 5 | 5. 5 | V |
| Voltage(DC) | RFM83L | 2. 1 | 3 | 3.6 | V |
| Operating | RFM83/5V/315MHz | | 3 | 4 | mA |
| Current | RFM83/5V/433.92MHz | | 5 | 6 | mA |
| | RFM83L/3V/315MHz | | 2. 2 | 3. 2 | mA |
| | RFM83L/3V/433.92MHz | | 3. 2 | 4.2 | mA |
| Sleep current | | | 3 | | uA |
| Operating Frequency | RFM83-315 | | 315 | | MHz |
| | RFM83L-315 | | | | |
| | RFM83-433 | | 433. 92 | | MHz |
| | RFM83L-433 | | | | |
| Sensitivity | 315MHz | | -108 | | dBm |
| | Data rate 1K | | 100 | | ODIII |
| | 433.92MHz | | -108 | | dBm |
| | Data rate 1K | | 100 | | CiDili |
| Receive bandwidth | | | 300 | | KHz |
| Data rate | | 0.3 | | 2. 5 | KHz |
| Operating temperature | | -20 | | +70 | ${\mathbb C}$ |

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6. Mechanical Dimension (Unit: mm)

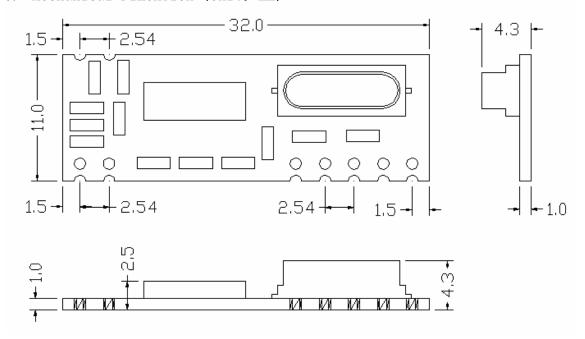


Figure 1 SMD Mechanical Dimension

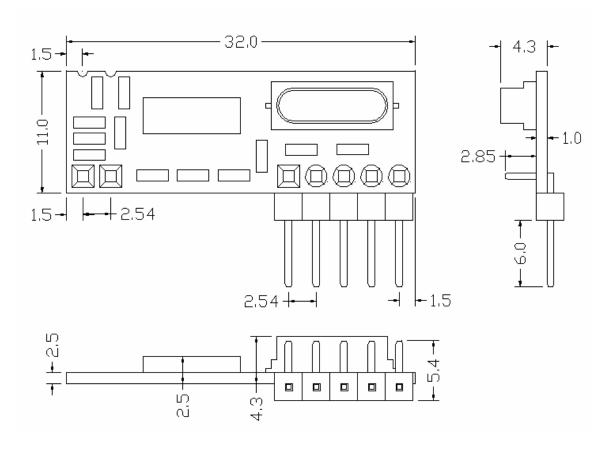
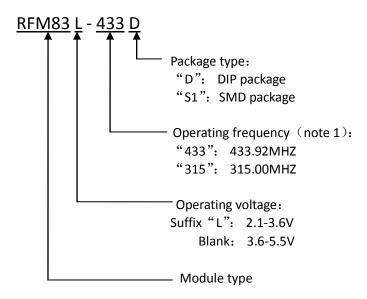


Figure 2 **DIP Mechanical Dimension**

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7. Part Number Ordering information



Note 1: Besides 315MHz and 433.92MHz, we can customize the frequencies between 300Mhz and 440Mhz.

P/N comparison table:

| Module P/N | Chip type | Operating voltage (V) | Operating current (MHz) | Enable (SHUT) and Wake-up (WAKEB) function | Package type |
|--------------|-----------|-----------------------|-------------------------|--|-----------------|
| RFM83-315S1 | RF83 | 3.6-5.5 | 315 | Yes | SMD |
| RFM83-433S1 | RF83 | 3.6-5.5 | 433.92 | Yes | SMD |
| RFM83L-315S1 | RF83L | 2.1-3.6 | 315 | Yes | SMD |
| RFM83L-433S1 | RF83L | 2.1-3.6 | 433.92 | Yes | SMD |
| RFM83-315D | RF83 | 3.6-5.5 | 315 | Yes | DI |
| RFM83-433D | RF83 | 3.6-5.5 | 433.92 | Yes | DI |
| RFM83L-315D | RF83L | 2.1-3.6 | 315 | Yes | DI |
| RFM83L-433D | RF83L | 2.1-3.6 | 433.92 | Yes | DI |

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