ASK Super Regenerative Receiver

ST-RX02-ASK Receiver

General Description:
The ST-RX02-ASK is an ASK Hybrid receiver module. A effective low cost solution for using at 315/433.92 MHZ. The circuit shape of ST-RX02-ASK is L/C.
Receiver Frequency: 315 / 433.92 MHZ
Typical sensitivity: -105dBm
Supply Current: 3.5mA
IF Frequency:1MHz

Features:
- Low power consumption.
- Easy for application.
- Operation temperature range: -20°C ~ +70°C
- Operation voltage: 5 Volts.
- Available frequency at: 315/434 MHz

Applications
- Car security system
- Wireless security systems
- Sensor reporting
- Automation system
- Remote Keyless entry
Electrical Characteristics:

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vcc Supply Voltage</td>
<td>5</td>
<td></td>
<td></td>
<td>VDC</td>
</tr>
<tr>
<td>Is Supply Current</td>
<td></td>
<td>3.5</td>
<td>4.5</td>
<td>mA</td>
</tr>
<tr>
<td>FR Receiver Frequency</td>
<td></td>
<td>315/434</td>
<td></td>
<td>MHz</td>
</tr>
<tr>
<td>RF Sensitivity (Vcc=5V 1Kbps Data Rate)</td>
<td></td>
<td>-105</td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>Max Data Rate</td>
<td>300</td>
<td>1k</td>
<td>3k</td>
<td>Kbit/s</td>
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<tr>
<td>VoH High Level Output (I=30uA)</td>
<td>0.7Vcc</td>
<td></td>
<td></td>
<td>VDC</td>
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<tr>
<td>VoL Low Level Output (I=30uA)</td>
<td></td>
<td>0.3Vcc</td>
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<td>VDC</td>
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<tr>
<td>Turn On Time (Vcc off-Turn on)</td>
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<td>25</td>
<td></td>
<td>ms</td>
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<tr>
<td>Top Operating Temperature Range</td>
<td>-20</td>
<td>70</td>
<td></td>
<td>℃</td>
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<tr>
<td>Output Duty</td>
<td>40</td>
<td>60</td>
<td></td>
<td>%</td>
</tr>
</tbody>
</table>

Mechanical Dimension:

Dimensions | Millimeters | Dimensions | Millimeters |
------------|-------------|------------|-------------|
A           | 43.5 + 0.25mm | F           | 2.50 + 0.15mm |
B           | 12 + 0.25mm   | G           | 3.50 + 0.15mm |
C           | 25.2 + 0.30mm | H           | 7.2 + (MAX)   |
D           | 2.54 + 0.05mm | I           | 0.32 + 0.05mm |
E           | 0.65 + 0.05mm |             |             |
Typical Characteristics

Temperature VS sensitivity

![Temperature vs. sensitivity graph showing sensitivity levels at different temperatures for 315MHz and 434MHz frequencies.](image)

Typical Application:

![Schematic diagram showing antenna, vcc, data, and MCU connections.](image)

Remark:
1. Antenna length about: 23cm for 315MHz
   17cm for 434MHz