Features
- Complete RF Transmitter
- SAW Resonator
- Transmit Range Up To 50m
- CMOS / TTL Input
- No Adjustable Components
- Stable Operating Frequency
- Wide Operating Voltage (3-12v)
- ASK Modulation
- Available as 315 or 433 MHz

Applications
- Wireless Security Systems
- Garage Door controller
- Remote Gate Controls
- Remote Sensing
- Data Capture
- Sensor Reporting

Description
The Quasar UK AM hybrid transmitter module provides a complete RF transmitter which can be used to transmit data at up to 3KHz from any standard CMOS/TTL source.

The module is very simple to operate and offers a wide operating voltage range, the RF Power output increases in line with the voltage level applied to the module. Data can be supplied directly from a microprocessor or encoding device, thus keeping the component count down and ensuring a low hardware cost.

The modules are compatible with the Quasar UK Ltd. range of AM receivers to provide a complete solution.

Typical Application
For further information on this circuit please refer to the RF Solutions datasheet DS600.

Part Numbers

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QAM-TX3-433</td>
<td>AM Transmitter Module, 433MHz</td>
</tr>
</tbody>
</table>
Module mounting considerations
Good RF layout practice should be observed, in particular:
1. All grounds must be low impedance, keep all ground returns as short as possible, do not use shared vias
2. Any ground return required by the module's antenna or feed should be connected directly to the RF GND pins at the antenna end of the module
3. All connecting tracks should be kept as short as possible to avoid any problems with stray RF pickup
4. Where the connection between the module and it's antenna does not form part of the antenna itself, it should be made using 50Ω microstrip line or coax or a combination of both
5. Fill all unused PCB area around the module with ground plane
6. Use of an uninterrupted ground plane (dual layer PCB) can be highly effective in cutting radiated interference and its use is strongly recommended
7. It is essential that a stable power supply is used. The RF Power output of this module changes in line with the supply voltage level, do not exceed the voltage level stated for the module's output power level specification
8. Ensure that the modules power supply pins are adequately decoupled using a low pass filter (LC), choose an inductor with a low dc series resistance (<0.1Ω) and place the filter as close to the module's power supply pins as possible
9. The choice of antenna is important, it must not have gain in any direction as this will increase the radiated emissions beyond approval levels
10. Use a reactive pi (low pass) matching network between the module's RF output and the antenna, this will maximise the RF power transfer and improve harmonics filtering

Technical Specifications

<table>
<thead>
<tr>
<th>Pin</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IN</td>
<td>Data input</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>3</td>
<td>ANT</td>
<td>External Antenna</td>
</tr>
<tr>
<td>4</td>
<td>Vcc</td>
<td>Supply Voltage</td>
</tr>
</tbody>
</table>
AM TRANSMITTER MODULE
QAM-TX3

Mechanical Specifications

Electrical Characteristics

Ambient temp = 25°C unless otherwise stated.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage</td>
<td>3</td>
<td>12</td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Supply Current (Vcc=12V)</td>
<td></td>
<td></td>
<td>12.5 mA</td>
<td></td>
</tr>
<tr>
<td>Output Power (Vcc=3V IN=1kHz)</td>
<td>10</td>
<td></td>
<td>dBm</td>
<td></td>
</tr>
<tr>
<td>Working Frequency</td>
<td>433.92</td>
<td></td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Frequency Accuracy</td>
<td>+/- 75</td>
<td></td>
<td>KHz</td>
<td></td>
</tr>
<tr>
<td>Data Rate</td>
<td>1</td>
<td>3,000</td>
<td>Hz</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-20</td>
<td>85</td>
<td>°C</td>
<td></td>
</tr>
</tbody>
</table>
Tape and Reel Dimensions

Maximum Soldering Profile

QuasarUK is an internet based company. All Sales / support and interface is via our website at

www.quasaruk.co.uk

for Sales:
Sales : sales@quasaruk.co.uk

for Support:
Support : sales@quasaruk.co.uk
Support Tel: 0907 639 0000

Calls charged at £0.60 per minute from a BT landline other networks may vary. Callers must be 18 or over and have the bill payers permission. Service provided by StealthNET Ltd :08444150774

Information contained in this document is believed to be accurate, however no representation or warranty is given and no liability is assumed by Quasar (UK) Ltd. with respect to the accuracy of such information. Use of products as critical components in life support systems is not authorised except with express written approval from Quasar (UK) Ltd.