Voltage-Controlled Oscillator
Surface Mount Module

Applications

- Wireless radios
- Mobile Communications
- Basestations

Application Notes

- AN-101: Mounting and Grounding
- AN-102: Output Loading
- AN-107: Manual Soldering

Performance Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oscillation Frequency Range</td>
<td>1440</td>
<td>1470</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Phase Noise @ 10 kHz offset (1 Hz BW)</td>
<td>-110</td>
<td></td>
<td>dBC/Hz</td>
<td></td>
</tr>
<tr>
<td>Harmonic Suppression (2nd)</td>
<td>-27</td>
<td>-20</td>
<td>dBC</td>
<td></td>
</tr>
<tr>
<td>Tuning Voltage</td>
<td>1</td>
<td>5</td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Tuning Sensitivity (avg.)</td>
<td>16</td>
<td></td>
<td>MHz/V</td>
<td></td>
</tr>
<tr>
<td>Power Output</td>
<td>-6.5</td>
<td>-2.5</td>
<td>1.5</td>
<td>dBm</td>
</tr>
<tr>
<td>Load Impedance</td>
<td>50</td>
<td></td>
<td>Ω</td>
<td></td>
</tr>
<tr>
<td>Input Capacitance</td>
<td>50</td>
<td></td>
<td>pF</td>
<td></td>
</tr>
<tr>
<td>Pushing</td>
<td>1</td>
<td></td>
<td>MHz/V</td>
<td></td>
</tr>
<tr>
<td>Pulling (14 dB Return Loss, Any Phase)</td>
<td>1</td>
<td></td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40</td>
<td>85</td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Package Style</td>
<td>MINI-14MS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Power Supply Requirements

<table>
<thead>
<tr>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage (Vcc, nom.)</td>
<td>5</td>
<td></td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Supply Current (Icc)</td>
<td>22</td>
<td>28</td>
<td>mA</td>
<td></td>
</tr>
</tbody>
</table>

Additional Notes

Pin 4, Mod port is not used and could be grounded.
**Voltage-Controlled Oscillator**

**Surface Mount Module**

### Tuning Curve, typ.

![Tuning Curve Graph]

- **TUNING VOLTAGE (Vdc)**
- **FREQUENCY (MHz)**

- **85°C**
- **25°C**
- **-40°C**

### Power Curve, typ.

- **POWER OUTPUT (dBm)**
- **FREQUENCY (MHz)**

- **85°C**
- **25°C**
- **-40°C**

### Footprint

**Recommended Footprint**

- Several holes of 0.015 on GND plane are recommended for good grounding.

**Pin Configuration**

- P1: Vt
- P2: RF Out
- P3: Vcc
- P4: MOD
- P5: REST
- Ground

**Physical Dimensions**

- **PACKAGE**: MINI-14MS
- **MINI-14MS-LOW**: 0.220
- **MINI-14MS-LOW**: 0.180

**NOTE**: All dimensions are in inches. TOL: XXX +/- 0.010

---

LFSuffix = RoHS Compliant. All specifications are subject to change without notice.

© Z-Communications, Inc. All Rights Reserved.

Page 2 of 2

FRM-S-002 B