## Voltage-Controlled Oscillator

### Surface Mount Module

#### Applications
- Satellite Communication Systems
- UHF Radios

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

#### Performance Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oscillation Frequency Range</td>
<td>445</td>
<td>480</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Phase Noise @ 10 kHz offset (1 Hz BW)</td>
<td>-113</td>
<td></td>
<td>dBc/Hz</td>
<td></td>
</tr>
<tr>
<td>Harmonic Suppression (2nd)</td>
<td>-12</td>
<td>-11</td>
<td>dBc</td>
<td></td>
</tr>
<tr>
<td>Tuning Voltage</td>
<td>0.5</td>
<td>2.5</td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Tuning Sensitivity (avg.)</td>
<td>25</td>
<td></td>
<td>MHz/V</td>
<td></td>
</tr>
<tr>
<td>Power Output</td>
<td>-3</td>
<td>0</td>
<td>3</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>2</td>
<td></td>
<td>MHz/V</td>
<td></td>
</tr>
<tr>
<td>Pulling (12 dB Return Loss, Any Phase)</td>
<td>.5</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-16M-L</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Power Supply Requirements

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage (Vcc, nom.)</td>
<td>3.3</td>
<td></td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Supply Current (Icc)</td>
<td>12</td>
<td>14</td>
<td>mA</td>
<td></td>
</tr>
</tbody>
</table>

#### Additional Notes

AN-101: Mounting and Grounding
AN-102: Output Loading
AN-107: Manual Soldering
Voltage-Controlled Oscillator
Surface Mount Module

Tuning Curve, typ.

![Tuning Curve Graph]

- 85°C
- 25°C
- -40°C

Power Curve, typ.

![Power Curve Graph]

- 85°C
- 25°C
- -40°C

Footprint

![Footprint Diagram]

Recommended Footprint:
Several holes of 0.015 on GND. Plane are recommended for good grounding.

0.030 Min. Cutback from live pads

Physical Dimensions

![Physical Dimensions Diagram]

Z-COMM
XXXXXXX-LF
W/O# D/C

NOTE: ALL DIMENSIONS ARE IN INCHES
TOL: XXX: +/- 0.010

MINI-16M-LOW 0.160
MINI-16M-L 0.130

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

© Z-Communications, Inc. All Rights Reserved. Page 2 of 2