Voltage-Controlled Oscillator
Surface Mount Module

Applications
Radar Systems
Satellite Communications

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

Performance Specifications

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oscillation Frequency Range</td>
<td>4162</td>
<td>4163</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Phase Noise @ 10 kHz offset (1 Hz BW)</td>
<td>-108</td>
<td>dBC/Hz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harmonic Suppression (2nd)</td>
<td>-25</td>
<td>-15</td>
<td>dBC</td>
<td></td>
</tr>
<tr>
<td>Tuning Voltage</td>
<td>0.5</td>
<td>4.5</td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Tuning Sensitivity (avg.)</td>
<td>6</td>
<td>MHz/V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Output</td>
<td>5</td>
<td>7.5</td>
<td>10</td>
<td>dBm</td>
</tr>
<tr>
<td>Load Impedance</td>
<td>50</td>
<td>Ω</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Capacitance</td>
<td>50</td>
<td>pF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pushing</td>
<td>1</td>
<td>MHz/V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulling (10 dB Return Loss, Any Phase)</td>
<td>1</td>
<td>MHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40</td>
<td>85</td>
<td>°C</td>
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</tbody>
</table>

Package Style MINI-16-SM

Power Supply Requirements

<table>
<thead>
<tr>
<th></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>Vdc</td>
<td></td>
<td></td>
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<tr>
<td>Supply Current (Icc)</td>
<td>25</td>
<td>30</td>
<td>mA</td>
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</tbody>
</table>

Additional Notes

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

LFSuffix = RoHS Compliant. All specifications are subject to change without notice.
Tuning Curve, typ.

![Tuning Curve Graph]

- **TUNING VOLTAGE (Vdc)**
- **FREQUENCY (MHz)**
- Colors: Red = 85°C, Black = 25°C, Blue = -40°C

Power Curve, typ.

![Power Curve Graph]

- **POWER OUTPUT (dBm)**
- **FREQUENCY (MHz)**
- Colors: Red = 85°C, Black = 25°C, Blue = -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
- 0.000, 0.0115, 0.0215, 0.0315, 0.0415, 0.0500

Physical Dimensions

![Physical Dimensions Diagram]

- **Z-COMM XXXXXXXX-LF W/O # D/C**
- **PIN CONFIGURATION**
- P1: YL
- P2: RF OUT
- P3: Vcc
- P4: REFT GROUND

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