Voltage-Controlled Oscillator
Surface Mount Module

Applications

- Digital Radios
- Satellite Communications

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>4990</td>
<td>5010</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Phase Noise @ 10 kHz offset (1 Hz BW)</td>
<td>-107</td>
<td>-67</td>
<td>dBc/Hz</td>
<td></td>
</tr>
<tr>
<td>Harmonic Suppression (2nd)</td>
<td>-40</td>
<td>-30</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>8</td>
<td></td>
<td>MHz/V</td>
<td></td>
</tr>
<tr>
<td>Power Output</td>
<td>0</td>
<td>4</td>
<td>8</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 (14 dB Return Loss, Any Phase)</td>
<td>0</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>VCO-24H</td>
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</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>5</td>
<td></td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Supply Current (Icc)</td>
<td>75</td>
<td>85</td>
<td>mA</td>
<td></td>
</tr>
</tbody>
</table>

Additional Notes
**Voltage-Controlled Oscillator**

**Surface Mount Module**

**CRO5000Z**

**Rev A1**

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### Tuning Curve, typ.

![Tuning Curve Diagram](image)

- **TUNING VOLTAGE (Vdc)** vs. **FREQUENCY (MHz)**
- **Temperature Indicators**:
  - Red: 85°C
  - Black: 25°C
  - Blue: -40°C

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### Power Curve, typ.

![Power Curve Diagram](image)

- **POWER OUTPUT (dBm)** vs. **FREQUENCY (MHz)**
- **Temperature Indicators**:
  - Red: 85°C
  - Black: 25°C
  - Blue: -40°C

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### Footprint

**Recommended Footprint**

- Several holes of 0.015 in. are recommended for good grounding.
- 0.030 min. cutback from live pads.

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### Physical Dimensions

![Physical Dimensions](image)

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

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