**V440MC02**

**VOLTAGE CONTROLLED OSCILLATOR**

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**FEATURES**

- Frequency Range: 370 - 460 MHz
- Tuning Voltage: 0.5 - 4.5 Vdc
- MINI-14S Style Package

**APPLICATIONS**

- VHF Radios
- Test Instrumentation
- Mobile Radios

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**PERFORMANCE SPECIFICATIONS**

<table>
<thead>
<tr>
<th></th>
<th>VALUE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oscillation Frequency Range</td>
<td>370 - 460 MHz</td>
<td></td>
</tr>
<tr>
<td>Phase Noise @ 10 kHz offset (1 Hz BW, typ.)</td>
<td>-107 dBc/Hz</td>
<td></td>
</tr>
<tr>
<td>Harmonic Suppression (2nd, typ.)</td>
<td>-3 dBc</td>
<td></td>
</tr>
<tr>
<td>Tuning Voltage</td>
<td>0.5 - 4.5 Vdc</td>
<td></td>
</tr>
<tr>
<td>Tuning Sensitivity (avg.)</td>
<td>37 MHz/V</td>
<td></td>
</tr>
<tr>
<td>Power Output</td>
<td>7.25 ± 2.75 dBm</td>
<td></td>
</tr>
<tr>
<td>Load Impedance</td>
<td>50 Ω</td>
<td></td>
</tr>
<tr>
<td>Input Capacitance (max.)</td>
<td>250 pF</td>
<td></td>
</tr>
<tr>
<td>Pushing</td>
<td>&lt; 2 MHz/V</td>
<td></td>
</tr>
<tr>
<td>Pulling (14 dB Return Loss, Any Phase)</td>
<td>&lt; 1 MHz</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40 to 85 °C</td>
<td></td>
</tr>
<tr>
<td>Package Style</td>
<td>MINI-14S</td>
<td></td>
</tr>
</tbody>
</table>

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**POWER SUPPLY REQUIREMENTS**

<table>
<thead>
<tr>
<th></th>
<th>VALUE</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage (Vcc, nom.)</td>
<td>5 Vdc</td>
<td></td>
</tr>
<tr>
<td>Supply Current (Icc, typ.)</td>
<td>14 mA</td>
<td></td>
</tr>
</tbody>
</table>

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**APPLICATION NOTES**

- AN-100/1: Mounting and Grounding of VCOs
- AN-102: Proper Output Loading of VCOs
- AN-107: How to Solder Z-COMM VCOs

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**NOTES:**

All specifications are typical unless otherwise noted and subject to change without notice.

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LOW COST - HIGH PERFORMANCE
VOLTAGE CONTROLLED OSCILLATOR

PHYSICAL DIMENSIONS

MINI-14 S
415-0062 REV. B
(DRAWING NOT TO SCALE)

NOTES:
1. THE INSIDE RADIUS OF ALL 14 HALF HOLES
AT THE PERIMETER OF THE BOARD ARE
SOLDER PLATED TO PROVIDE A SURFACE
FOR THE ATTACHMENT OF THE VCO TO A
PADS BEING USED FOR ELECTROMECHANICAL
INTERFACE 14 SOLDER LOCATIONS REQUIRED.
2. THE SURFACE OF THE SHIELD IS TIN PLATED
AND MAY BE SOLDERED TO THE PRINTED BOARD.
3. THE GROUND PLANE IN DIAMOND AND ATTACHES
TO A GROUND TRACK ON THE UPPER SIDE OF THE
BOARD AS WELL AS THE SHIELD BY PTH.
4. UNLESS OTHERWISE NOTED ALL DIMENSIONS
ARE IN INCHES.
5. UNLESS OTHERWISE NOTED ALL TOLERANCES
ARE AS FOLLOWING:

TOLERANCES:

VCC = ± .010
PG = RF OUT
PG = VT

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Page 2
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POWER CURVE, typ.

POWER OUTPUT (dBm)

FREQUENCY (MHz)

TUNING CURVE, typ.

FREQUENCY (MHz)

TUNING VOLTAGE (Vdc)

VOLTAGE CONTROLLED OSCILLATOR

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