VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: DCR0125175-8

OPTIMIZED BANDWIDTH
1250 - 1750 MHz

FEATURES:
► Exceptional Phase Noise Performance
► Small Size, Surface Mount
► Lead Free Patented REL-PRO® Technology
► Planar Resonator Construction

SPECIFICATIONS (Rev. D 10/12/10)

Frequency
1250 - 1750 MHz
Tuning Voltage
See table below.
Bias Voltage
+8 VDC @ 39 mA (Max.)
Output Power
+5 dBm (Min.)
Tuning Sensitivity
20 - 38 MHz/V (Typ.)
Output Impedance
50 Ohms (Nom.)
Harmonic Suppression
25 dB (Typ.)
Frequency Pulling
5 MHz (Typ. @ 1.75:1 VSWR)
Frequency Pushing
1 MHz/V (Typ.)
Tuning Port Capacitance
73 pF (Typ.)
Phase Noise @ 10 kHz
-110 dBc/Hz (Typ.)
Operating Temperature Range
-40 to +85 °C

Guaranteed Tuning Specifications

<table>
<thead>
<tr>
<th>Tuning Voltage (V)</th>
<th>Frequency (MHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>1250 (Max.)</td>
</tr>
<tr>
<td>5</td>
<td>1325 (Min.)</td>
</tr>
<tr>
<td>12</td>
<td>1520 (Min.)</td>
</tr>
<tr>
<td>15</td>
<td>1650 (Min.)</td>
</tr>
<tr>
<td>20</td>
<td>1750 (Min.)</td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Storage Temp. Range</th>
<th>-55 to +125 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bias Voltage</td>
<td>+8 V</td>
</tr>
<tr>
<td>Tuning Voltage</td>
<td>+24 V</td>
</tr>
<tr>
<td>DC Voltage Applied to RF Out</td>
<td>± 25 V</td>
</tr>
</tbody>
</table>

Phase Noise

-170 - (-90 dBc/Hz) Offset Frequency (Hz)

Recommended PCB Layout

Dimensions are in inches.

Tolerances on three decimal places are 0.001.
All unlabeled pins to be grounded.

Package Mounting: See Application Note AN720 & AN7500
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PERFORMANCE PLOTS

Control Voltage (Vdc)

Frequency (MHz)

Output Power (dBm)

Control Voltage (Vdc)

+25ºC  +85ºC  -40ºC

+25ºC  +85ºC  -40ºC

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