VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: DCRO153185-10

OPTIMIZED BANDWIDTH
1500 - 2000 MHz

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

SPECIFICATIONS (Rev. D 07/09/13)

Frequency 1500 - 2000 MHz
Tuning Voltage See table below.
Bias Voltage +10 VDC @ 35 mA (Max.)
Output Power +5 dBm (Min.)
Tuning Sensitivity 23 - 45 MHz/V (Typ.)
Output Impedance 50 Ohms (Nom.)
Harmonic Suppression 18 dB (Typ.)
Frequency Pulling 5 MHz (Typ. @ 1.75:1 VSWR)
Frequency Pushing 1 MHz/V (Typ.)
Tuning Port Capacitance 56 pF (Typ.)
Phase Noise @ 10 kHz -107 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>1500 (Max.)</td>
</tr>
<tr>
<td>5</td>
<td>1560 (Min.)</td>
</tr>
<tr>
<td>8</td>
<td>1615 (Min.)</td>
</tr>
<tr>
<td>12</td>
<td>1750 (Min.)</td>
</tr>
<tr>
<td>15</td>
<td>1850 (Min.)</td>
</tr>
<tr>
<td>20</td>
<td>2000 (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>+10.5 V</td>
</tr>
<tr>
<td>Tuning Voltage</td>
<td>+20 V</td>
</tr>
<tr>
<td>DC Voltage Applied to RF Out</td>
<td>± 25 V</td>
</tr>
</tbody>
</table>

Phase Noise

<table>
<thead>
<tr>
<th>Offset Frequency (Hz)</th>
<th>Phase Noise (dBc/Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>-170</td>
</tr>
<tr>
<td>1000</td>
<td>-170</td>
</tr>
<tr>
<td>10000</td>
<td>-170</td>
</tr>
<tr>
<td>100000</td>
<td>-170</td>
</tr>
<tr>
<td>1000000</td>
<td>-170</td>
</tr>
</tbody>
</table>

Recommended PCB Layout

Dimensions are in inches.

Tolerances on three decimal places = ± 0.015
All unnumbered pins to be grounded.
Packing Mounting: See Application Note AN7200 & AN7300

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PERFORMANCE PLOTS

Control Voltage (Vdc) vs. Frequency (MHz)

Control Voltage (Vdc) vs. Output Power (dBm)

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PERFORMANCE PLOTS

Tuning Sensitivity (MHz/V)

Control Voltage (Vdc)

+25°C  +85°C  -40°C

2nd Harmonic Suppression (dB)

Control Voltage (Vdc)

+25°C  +85°C  -40°C