VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: DCR0150154-8

OPTIMIZED BANDWIDTH
1500 - 1540 MHz

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

SPECIFICATIONS (Rev. D 12/2/10)

- Frequency: 1500 - 1540 MHz
- Tuning Voltage: See table below.
- Bias Voltage: +8 VDC @ 38 mA (Max.)
- Output Power: +5 dBm (Typ.)
- Tuning Sensitivity: 3-7 MHz/V (Typ.)
- Output Impedance: 50 Ohms (Nom.)
- Harmonic Suppression: 21 dB (Typ.)
- Frequency Pulling: 5 MHz (Typ. @ 1.75:1 VSWR)
- Frequency Pushing: 2 MHz/V (Typ.)
- Tuning Port Capacitance: 70 pF (Typ.)
- Phase Noise @ 10 kHz: -118 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>1510 (Min.)</td>
</tr>
<tr>
<td>8</td>
<td>1520 (Min.)</td>
</tr>
<tr>
<td>12</td>
<td>1540 (Min.)</td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings

- Storage Temp. Range: -55 to +125 °C
- Bias Voltage: +8.5 V
- Tuning Voltage: +15 V
- DC Voltage Applied to RF Out: ± 25 V

Package # 278LF

RECOMMENDED PCB LAYOUT

OPTIMAL GROUNDING AND POWER PLACEMENT

DIMENSIONS ARE IN INCHES.

TOLERANCES ON THREE DECIMAL PLACES: ± 0.005

Package Mounting: See Application Note AN7290 & AN7300
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PERFORMANCE PLOTS

Control Voltage (Vdc) vs. Frequency (MHz)

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

- +25°C
- +85°C
- -40°C

This product is manufactured under one or more of the following patents. Approved: 5,160,810; 5,122,621; 5,390,349; 5,416,449; 5,550,754; 5,695,451; 5,523,625; 8,953,875; 7,088,189; 7,180,381; 7,196,591; 7,262,670; 7,265,642; 7,292,113; 7,365,612; 7,495,525; 2,548,311; 2,548,317; 2,553,893; 2,554,751; 2,554,757

Pending: 60/493075; 60/501371 & 60/501790; 60/527957 & 60/528670; 60/563481; 60/564173; 60/589090; 60/601823; 60/605791; EV31369834; 1 1/259766; 60/622485 & 60/710310; 10/937525/60/736901; 60/732787; 7,495,525; 2,548,311; 2,548,317; 2,553,893; 2,554,751
VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: DCMO150154-8
OPTIMIZED BANDWIDTH

1500 - 1540 MHz

Performance Plots

- Tuning Sensitivity (MHz/V)
- 2nd Harmonic Suppression (dB)

Temperature Considerations:
- +25°C
- +85°C
- -40°C