VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: DCSR1000-8

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

SPECIFICATIONS (Rev. A 06/03/10)

Frequency 1000 MHz
Tuning Voltage 0.5 - 8.0 VDC
Bias Voltage +8.0 VDC @ 38 mA (Max.)
Output Power +4.5 dBm (Min.)
Tuning Sensitivity 3.0 - 4.0 MHz/V (Typ.)
Output Impedance 50 Ohms (Nom.)
Harmonic Suppression 15.0 dB (Typ.)
Frequency Pulling 1.2 MHz (Typ. @ 1.75:1 VSWR)
Frequency Pushing 0.5 MHz/V (Typ.)
Tuning Port Capacitance 42 pF (Typ.)
Phase Noise @ 10 kHz -122 dBc/Hz (Typ.)
Operating Temperature Range -40 to +85 °C

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

Phase Noise

<table>
<thead>
<tr>
<th>Offset Frequency (Hz)</th>
<th>Phase Noise (dBc/Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>-118 dBc/Hz</td>
</tr>
<tr>
<td>1000</td>
<td>-108 dBc/Hz</td>
</tr>
<tr>
<td>10000</td>
<td>-98 dBc/Hz</td>
</tr>
<tr>
<td>100000</td>
<td>-88 dBc/Hz</td>
</tr>
<tr>
<td>1000000</td>
<td>-78 dBc/Hz</td>
</tr>
</tbody>
</table>

Package # 278LF

RECOMMENDED PCB LAYOUT

TOLERANCES ON THREE DECIMAL PLACES: ± .0015

DIRECTIONS ARE IN INCHES:
ALL UNLABELED PINS TO BE GROUNDED.

PACKAGE MOUNTING: SEE APPLICATION NOTE AH7200 & AH7300
VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: DCSR1000-8

OPTIMIZED FREQUENCY
1000 MHz

PERFORMANCE PLOTS

2nd Harmonic Suppression (dB)

Control Voltage (Vdc)

Tuning Sensitivity (MHz/V)

Control Voltage (Vdc)

+25ºC  +85ºC  -40ºC

0.0  0.5  1.0  1.5  2.0  2.5  3.0  3.5  4.0  4.5  5.0  5.5  6.0  6.5  7.0
0  1  2  3  4  5  6  7  8

-24 -22 -20 -18 -16 -14 -12 -10 -8 -6 -4 -2 0

+25ºC  +85ºC  -40ºC

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; 5,650,754; 5,625,025; 6,850,575; 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; 2,563,174; 2,598,693; 7,545,229; 7,612,296; 7,636,021; 2,524,751
Pending: 60/493075; 60/501371 & 60/501790; 60/527957 & 60/528670; 60/563481; 60/564173; 60/589090; 60/601823; 60/605791; 60/710310; 10/937525/60/736901; 60/732787; 7,495,525; 2,548,311; 2,548,317; 2,563,174; 7,380,803; 7,612,296; 2,524,751

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