VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: DCO400800-5
WIDE BANDWIDTH
4000 - 8000 MHz

FEATURES:
► Miniature Size, Surface Mount (0.3" x 0.3")
► Exceptional Phase Noise Performance
► Fast Tuning

SPECIFICATIONS (Rev. D 11/07/17)

- Frequency: 4000 - 8000 MHz
- Tuning Voltage: See table below.
- Bias Voltage: +5 VDC @ 20 mA (Max.)
- Output Power: -4 dBm (Min.)
- Tuning Sensitivity: 120 - 620 MHz/V (Typ.)
- Output Impedance: 50 Ohms (Nom.)
- Harmonic Suppression: 10 dB (Typ.)
- Frequency Pulling: 60 MHz (Typ. @ 1.75:1 VSWR)
- Frequency Pushing: 15 MHz/V (Typ.)
- Tuning Port Capacitance: 30 pF (Typ.)
- Typical Phase Noise:
  - Offset dBc/Hz
  - 10 kHz: -73
  - 100 kHz: -98
- 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>0.3</td>
<td>4000 (Max.)</td>
</tr>
<tr>
<td>5</td>
<td>5200 (Min.)</td>
</tr>
<tr>
<td>8</td>
<td>6200 (Min.)</td>
</tr>
<tr>
<td>12</td>
<td>7000 (Min.)</td>
</tr>
<tr>
<td>15</td>
<td>8000 (Min.)</td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings

- Storage Temp. Range: -55 to +125 °C
- Bias Voltage: +5.5 V
- Tuning Voltage: +16 V
- DC Voltage Applied to RF Out: ± 25 V

Phase Noise

<table>
<thead>
<tr>
<th>Offset kHz</th>
<th>dBc/Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 kHz</td>
<td>-73</td>
</tr>
<tr>
<td>100 kHz</td>
<td>-98</td>
</tr>
</tbody>
</table>

Package # 343LF

RECOMMENDED PCB LAYOUT

PACKAGE MOUNTING: SEE APPLICATION NOTE AN7200 AND AN7302

TOLERANCES ON THREE DECIMAL PLACES = ± 0.015
ALL UNLABELED PINS TO BE GROUNDED.
VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: DCO400800-5
WIDE BANDWIDTH 4000 - 8000 MHz

PERFORMANCE PLOTS

- Frequency (MHz)
- Control Voltage (Vdc)
- Output Power (dBm)

Temperature Conditions:
- +25°C
- +85°C
- -40°C
VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: **DCO400800-5**

**WIDE BANDWIDTH**

4000 - 8000 MHz

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PERFORMANCE PLOTS

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

[Graphs showing tuning sensitivity and 2nd harmonic suppression over control voltage at different temperatures (+25°C, +85°C, -40°C)]