VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: DCSR2688-5

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

SPECIFICATIONS (Rev. B 01/12/12)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>2688.651 MHz</td>
</tr>
<tr>
<td>Tuning Voltage</td>
<td>0.5 - 8 VDC</td>
</tr>
<tr>
<td>Bias Voltage</td>
<td>+5 VDC @ 38 mA (Max.)</td>
</tr>
<tr>
<td>Output Power</td>
<td>+4 dBm (Min.)</td>
</tr>
<tr>
<td>Tuning Sensitivity</td>
<td>0.5 - 8.5 MHz/V (Typ.)</td>
</tr>
<tr>
<td>Output Impedance</td>
<td>50 Ohms (Nom.)</td>
</tr>
<tr>
<td>Harmonic Suppression</td>
<td>14 dB (Typ.)</td>
</tr>
<tr>
<td>Frequency Pulling</td>
<td>3 MHz (Typ. @ 1.75:1 VSWR)</td>
</tr>
<tr>
<td>Frequency Pushing</td>
<td>0.5 MHz/V (Typ.)</td>
</tr>
<tr>
<td>Tuning Port Capacitance</td>
<td>25 pF (Typ.)</td>
</tr>
<tr>
<td>Phase Noise @ 10 kHz</td>
<td>-112 dBc/Hz (Typ.)</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40 to +85 °C</td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Rating</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Temp. Range</td>
<td>-55 to +125 °C</td>
</tr>
<tr>
<td>Bias Voltage</td>
<td>+5.5 V</td>
</tr>
<tr>
<td>Tuning Voltage</td>
<td>+10 V</td>
</tr>
<tr>
<td>DC Voltage Applied to RF Out</td>
<td>± 25 V</td>
</tr>
</tbody>
</table>

PACKAGE # 278LF

Phase Noise

1000 10000 100000 1000000 10000000
Offset Frequency (Hz)
-100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100
Phase Noise (dBc/Hz)

2688.03 MHz

RECOMMENDED FOR LAYOUT

DIMENSIONS ARE IN MILLIMETERS.
TOLERANCES ON THREE DECIMAL PLACES = ± 0.015
TO BE GROUNDED.
PACKAGE MOUNTING: SEE APPLICATION NOTE AH7200 & AH7300

Copyright © Synergy Microwave Corporation
201 McLean Boulevard • Paterson, New Jersey 07504 USA • Tel: (973) 881-8800 • Fax: (973) 881-8361
E-Mail: sales@synergymwave.com • World Wide Web: http://www.synergymwave.com
VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: DCSR2688-5

Optimized Bandwidth

2688.651 MHz

PERFORMANCE PLOTS

Control Voltage (Vdc) vs. Frequency (MHz)

+25°C  +85°C  -40°C

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

+25°C  +85°C  -40°C

Copyright © Synergy Microwave Corporation
201 McLean Boulevard • Paterson, New Jersey 07504 USA • Tel: (973) 881-8800 • Fax: (973) 881-8361
E-Mail: sales@synergymwave.com • World Wide Web: http://www.synergymwave.com
VOLTAGE CONTROLLED OSCILLATOR
SURFACE MOUNT MODEL: DCSR2688-5

OPTIMIZED BANDWIDTH

2688.651 MHz

PERFORMANCE PLOTS

Control Voltage (Vdc)

Tuning Sensitivity (MHz/V)

-25ºC  +85ºC  -40ºC

0 1 2 3 4 5 6 7 8

2nd Harmonic Suppression (dB)

-25ºC  +85ºC  -40ºC

0 1 2 3 4 5 6 7 8