INTELLIGENT INTERACTIVE SYNTHESIZER
SURFACE MOUNT MODEL: LFSW514-50

WIDE BANDWIDTH

50 - 140 MHz

FEATURES:
- Exceptionally Low Phase noise
- Interactive Communication
- Standard Programming Interface
- Ultra Wide Tuning Range
- Lead Free - RoHS Compliant
- Patented REL-PRO® Technology
- Small Size, Surface Mount
- Buffered Output

SPECIFICATIONS (Rev. H 06/01/11)

Frequency 50 - 140 MHz
Step Size 500 kHz
Reference Input Frequency 10 MHz
Reference Input Voltage 1.0 V p-p to 3.3 V p-p
Bias Voltage
- Vcc
- V (Vdc)
- I (mA Max.)
  Digital +5 40
  VCO -5 35
  Converter +5 55
Output Power +7 dBm (Min.)
Spurious Suppression 75 dB (Typ.)
Harmonic Suppression 15 dB (Typ.)
Settling Time 3 mSec (Typ.)
Output Impedance 50 Ohms (Nom.)
Lock Detect Indicator CMOS 3.3 V

Typical Phase Noise
@ 1 kHz -115 dBc/Hz
@ 10 kHz -115 dBc/Hz
@ 100 kHz -127 dBc/Hz

Operating Temperature Range -40 to +85 °C
Programming See Application Note: AN7100

Absolute Maximum Ratings
Storage Temp. Range -55 to +125 °C
Bias Voltage (Digital) +5.25 V
Bias Voltage (VCO) +5.5 V
Bias Voltage (Converter) +8 V
DC Voltage Applied to RF Out ±25 V

Phase Noise

OFFSET FREQUENCY (Hz)
-175
-165
-155
-145
-135
-125
-115
-105
-95
-85
100 1000 10000 100000 1000000 10000000

OFFSET FREQUENCY (Hz)

50.0000 MHz
95.0000 MHz
140.000 MHz

Tolerances on this ORIGINAL PLATES: 4040DS
PACKAGE LOUDTIONS: 50mA, 35V tantalum capacitor. *** NC if unused.

Port Configuration
Pin 5 - RF out
Pin 7 - Lock Detect Out *
Pin 9 - Data In
Pin 10 - Error Flag
Pin 13 - VCO (On/Off)****
Pin 19 - Latch Enable In

* High when locked (source/sink 500 uA)
** All Others - Ground
*** Connect externally. Bypassed with a 10uF 35V tantalum capacitor.
**** NC if unused.
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REFERENCE SIDEBAND SUPPRESSION

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HARMONIC SUPPRESSION

REFERENCE SIDEBAND SUPPRESSION

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PERFORMANCE PLOTS

HARMONIC SUPPRESSION

REFERENCE SIDEBAND SUPPRESSION
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WIDE BANDWIDTH

50 - 140 MHz

REFERENCE SIDEBAND SUPPRESSION

<table>
<thead>
<tr>
<th>Ref.</th>
<th>10 dBm</th>
<th>*Att.</th>
<th>30 dB</th>
<th>500 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delta 1</td>
<td>92.78 dB</td>
<td>1.0000 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delta 2</td>
<td>92.50 dB</td>
<td>1.0000 kHz</td>
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<td></td>
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