INTELLIGENT INTERACTIVE SYNTHESIZER
SURFACE MOUNT MODEL: LFSW35105-50

WIDE BANDWIDTH
350 - 1050 MHz

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

SPECIFICATIONS (Rev. H 04/07/11)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>350 - 1050 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step Size</td>
<td>500 kHz</td>
</tr>
<tr>
<td>Reference Input Frequency</td>
<td>10 MHz</td>
</tr>
<tr>
<td>Reference Input Voltage</td>
<td>1 V p-p to 3.3 V p-p</td>
</tr>
</tbody>
</table>

Bias Voltage

<table>
<thead>
<tr>
<th>Vcc</th>
<th>V (Vdc)</th>
<th>I (mA Max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital</td>
<td>+5</td>
<td>65</td>
</tr>
<tr>
<td>VCO</td>
<td>+5</td>
<td>105</td>
</tr>
<tr>
<td>Analog</td>
<td>+5</td>
<td>5</td>
</tr>
</tbody>
</table>

Output Power
+10 dBm (Min.)

Spurious Suppression
80 dB (Typ.)

Harmonic Suppression
20 dB (Typ.)

Settling Time
10 mSec (Typ.)

Output Impedance
50 Ohms (Nom.)

Lock Detect Indicator
CMOS 3.3 V

Typical Phase Noise

<table>
<thead>
<tr>
<th>Offset Frequency (Hz)</th>
<th>Phase Noise (dBc/Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 kHz</td>
<td>@ 1 kHz: -95 dBc/Hz</td>
</tr>
<tr>
<td>10 kHz</td>
<td>@ 10 kHz: -103 dBc/Hz</td>
</tr>
<tr>
<td>100 kHz</td>
<td>@ 100 kHz: -130 dBc/Hz</td>
</tr>
</tbody>
</table>

Operating Temperature Range
-30 to +75 °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 (Analog) | +5.25V |
| DC Voltage Applied to RF Out | ±25 V |

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Package # 280LF

Port Configuration

Pin 6 - RF Out
Pin 8 - Ref In
Pin 9 - Vcc(VCO) ****
Pin 12 - Lock Detect Out*
Pin 14 - Vcc(Tune) ***
Pin 16 - Vout(Converter) ***
Pin 25 - Latch Enable In

Pin 26 - Data In
Pin 27 - Error Flag
Pin 28 - Clock In
Pin 31 - VCO (On/Off) *****
Pin 34 - Vcc(Digital) ****
Pin 36 - Vtune Output
Pin 38 - Vcc(Analog) ****

Pin 10, 19-22, 24, 29 - NC
Pin 30, 32, 33 - NC
All Others Ground

* High when locked (source/sink 500 uA)
*** Connect pins 14 and 16 together externally and add 10uF tantalum bypass capacitor to ground.
**** Supply external filtering for pin 9, 34 and 38
***** Logic high or NC for normal operation, Logic Low to switch off.

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; 5,655,754; 5,605,471; 6,022,025; 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; 7,545,229; 7,580,693; 7,586,381; 7,605,670; 7,636,021; 2,533,623; 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; 7,545,229; 2,563,174; 7,580,693; 7,612,286; 2,534,751

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HARMONIC SUPPRESION

REFERENCE SIDEBAND SUPPRESION

PERFORMANCE PLOTS
**INTELLIGENT INTERACTIVE SYNTHESIZER**
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### REFERENCE SIDEBAND SUPPRESSION

<table>
<thead>
<tr>
<th>Reference</th>
<th>Sideband Suppression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marker 1</td>
<td>-17 dBm</td>
</tr>
<tr>
<td>Marker 2</td>
<td>-45 dB</td>
</tr>
</tbody>
</table>

**Performance Plots**

- **Frequency:** 350 MHz
- **Span:** 25 MHz
- **RBW:** 1 kHz
- **VBW:** 1 kHz
- **Switching Time:** 25 ms

**Markers:**
- Marker 1: 350 MHz, 15.44 dBm
- Delta 2: -90.47 dB, 10 MHz
- Delta 3: -88.68 dB, 10 MHz

**Date:** 18.07.2006 16:23:40

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Date:      18.JUL.2006  16:51:33

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REFERENCE SIDEBAND SUPPRESSION

PERFORMANCE PLOTS

Date: 18.JUL.2006 16:17:47