INTELLIGENT INTERACTIVE SYNTHESIZER
SURFACE MOUNT MODEL: LFSW35105-100

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

Phase Noise

<table>
<thead>
<tr>
<th>Offset Frequency (Hz)</th>
<th>-170</th>
<th>-160</th>
<th>-150</th>
<th>-140</th>
<th>-130</th>
<th>-120</th>
<th>-110</th>
<th>-100</th>
<th>-90</th>
<th>-80</th>
<th>-70</th>
<th>-60</th>
<th>-50</th>
<th>-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
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<td>100000</td>
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<td>1000000</td>
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</tr>
</tbody>
</table>

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>1000 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>

<table>
<thead>
<tr>
<th>Bias Voltage</th>
<th>Vcc (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 | 85 dB (Typ.) |
| Harmonic Suppression | 20 dB (Typ.) |
| Settling Time | 10 mSec (Typ.) |
| Output Impedance | 50 Ohms (Nom.) |
| Lock Detect Indicator | CMOS 3.3 V |

<table>
<thead>
<tr>
<th>Offset</th>
<th>Phase Noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>@ 1 kHz</td>
<td>-100 dBc/Hz</td>
</tr>
<tr>
<td>@ 10 kHz</td>
<td>-102 dBc/Hz</td>
</tr>
<tr>
<td>@ 100 kHz</td>
<td>-132 dBc/Hz</td>
</tr>
</tbody>
</table>

Typical Phase Noise

Operating Temperature Range

-20°C to +75°C

Programming

See Application Note: AN7100

Absolute Maximum Ratings

| Storage Temp. Range | -55°C to +125°C |
| Bias Voltage (Digital) | +5.25 V |
| Bias Voltage (VCO) | +5.5 V |
| Bias Voltage (Analog) | +5.25 V |
| DC Voltage Applied to RF Out | ±25 V |

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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; 5,605,431; 6,625,623; 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; 7,563,174; 7,580,693; 7,612,296; 2,524,751

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INTELLIGENT INTERACTIVE SYNTHESIZER
SURFACE MOUNT MODEL: LFSW35105-100

WIDE BANDWIDTH 350 - 1050 MHz

Package # 280LF

Port Configuration

<table>
<thead>
<tr>
<th>Pin 6</th>
<th>Pin 8</th>
<th>Pin 9</th>
<th>Pin 12</th>
<th>Pin 14</th>
<th>Pin 16</th>
<th>Pin 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF Out</td>
<td>Ref In</td>
<td>Vcc(VCO)****</td>
<td>Lock Detect Out*</td>
<td>Vcc(Tune)***</td>
<td>Vout(Converter)***</td>
<td>Latch Enable In</td>
</tr>
<tr>
<td>Pin 26</td>
<td>Pin 27</td>
<td>Pin 28</td>
<td>Pin 34</td>
<td>Pin 36</td>
<td>Pin 38</td>
<td>Pin 39</td>
</tr>
<tr>
<td>Data In</td>
<td>Error Flag</td>
<td>Clock In</td>
<td>Vcc(Digital)***</td>
<td>Vtune Output</td>
<td>Vcc(Analog)****</td>
<td>NC</td>
</tr>
</tbody>
</table>

Pin 10,19-22, 24, 29 - NC
Pin 30,32,33 - NC
All Others Ground
NC - No Connection

* 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.
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HARMONIC SUPPRESSION

REFERENCE SIDEBAND SUPPRESSION

PERFORMANCE PLOTS

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SURFACE MOUNT MODEL: LFSW35105-100

WIDE BANDWIDTH

350 - 1050 MHz

REFERENCE SIDEBAND SUPPRESSION

Ref: 17 dBm
Att: 45 dB

Marker 1 [T1]

Ref 17 dBm
Att 45 dB

Marker 2 [T1] Delta 2 [T1]
Delta 3 [T1]

PRN

-80
-70
-60
-50
-40
-30
-20
-10
0
10

1

1 kHz

1 kHz

1 kHz

2.5 MHz/

Span 25 MHz

Center: 350 MHz

-20.000000000 MHz

15.39 dBm 350.000000000 MHz

-89.12 dB

-10.000000000 MHz

-88.45 dB

10.000000000 MHz

Date:      18.JUL.2006  18:42:44
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WIDE BANDWIDTH 350 - 1050 MHz

HARMONIC SUPPRESSION

REFERENCE SIDEBAND SUPPRESSION
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REFERENCE SIDEBAND SUPPRESSION

PERFORMANCE PLOTS