INTELLIGENT INTERACTIVE SYNTHESIZER
SURFACE MOUNT MODEL: LFSW150320-25

WIDE BANDWIDTH

1500 - 3200 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. C 04/26/11)

Frequency 1500 - 3200 MHz
Step Size 250 kHz
Reference Input Frequency 10 MHz
Reference Input Voltage 1.0 V p-p to 3.3 V p-p

Bias Voltage

<table>
<thead>
<tr>
<th>Voltage</th>
<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>
<td></td>
</tr>
<tr>
<td>VCO</td>
<td>+5</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Converter</td>
<td>+5</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

Lock Detect Indicator CMOS 3.3 V
Output Power +7 dBm (Min.)
Spurious Suppression 70 dB (Typ.)
Harmonic Suppression 10 dB (Typ.)
Settling Time 15 mSec (Typ.)

Output Impedance 50 Ohms (Nom.)

Typical Phase Noise

<table>
<thead>
<tr>
<th>Offset Frequency (kHz)</th>
<th>Phase Noise (dBc/Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>@ 1 kHz</td>
<td>-80 dBc/Hz</td>
</tr>
<tr>
<td>@ 10 kHz</td>
<td>-84 dBc/Hz</td>
</tr>
<tr>
<td>@ 100 kHz</td>
<td>-110 dBc/Hz</td>
</tr>
</tbody>
</table>

Operating Temperature Range -30 to +70 °C
Programming See Application Note: AN7100

Reference input frequency is programmable (See AN7100) in multiples of the step size. 10 MHz is the factory default setting. 150 MHz (Max.)

Settling time 15 mSec (Typ.)

Output Impedance 50 Ohms (Nom.)

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

Packaging 197LF

Port Configuration

Pin 5 - RF Out
Pin 7 - Lock Detect Out *
Pin 9 - Data In
Pin 10 - Error Flag
Pin 11 - Clock In
Pin 13 - VCO (On/Off)****
Pin 19 - Latch Enable In
Pin 21 - Ref. In
Pin 22 - Vcc (Digital)
Pin 23 - Vtune (Output)
Pin 24 - Vcc (VCO)
Pin 25 - Vcc (Converter)
Pin 26 - Vout (Converter)***
Pin 27 - Vcc (Tune)***
Pin 28 - Vcc (Converter)

1 Reference input frequency is programmable (See AN7100) in multiples of the step size. 10 MHz is the factory default setting. 150 MHz (Max.)
2 From the rising edge of LE to stable lock detect

1500 MHz 2500 MHz 3200 MHz

Phase Noise

Offset Frequency (Hz)

100 1000 10000 100000 1000000 10000000 100000000

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SURFACE MOUNT MODEL: LFSW150320-25

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HARMONIC SUPPRESSION

REFERENCE SIDEBAND SUPPRESSION

PERFORMANCE PLOTS
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HARMONIC SUPPRESSION

REFERENCE SIDEBAND SUPPRESSION

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; 5,535,623; 5,805,431; 6,033,757; 6,262,670; 6,265,642; 6,365,612; 7,088,189; 7,180,381; 7,196,591; 7,262,670; 7,292,113; 7,364,525; 2,548,311; 2,548,317; 2,563,174; 7,480,693; 7,612,296; 2,524,751; 2,548,311; 2,548,317; 7,480,693; 7,612,296; 2,524,751
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Pending: 60/493075; 60/501371 & 60/501790; 60/527957 & 60/528670; 60/563481; 60/564173; 60/589090; 60/601823; 60/605791; 1/259766; 60/622485 & 60/710310; 10/937525/60/736901; 60/732787; 7,495,525; 2,548,311; 2,548,317; 7,548,311; 7,548,317; 7,580,693; 7,612,296; 2,524,751

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