INTELLIGENT INTERACTIVE SYNTHESIZER
SURFACE MOUNT MODEL: FSW100230-50

WIDE BANDWIDTH
1000 - 2300 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. B 03/24/11)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>1000 - 2300 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>
<tr>
<td>Bias Voltage</td>
<td>Voc V (Vdc), I (mA Max.)</td>
</tr>
<tr>
<td></td>
<td>Digital +5 15</td>
</tr>
<tr>
<td></td>
<td>VCO +5 55</td>
</tr>
<tr>
<td></td>
<td>Tune +24 10</td>
</tr>
<tr>
<td>Output Power</td>
<td>+4 dBm (Min.)</td>
</tr>
<tr>
<td>Spurious Suppression</td>
<td>90 dB (Typ.)</td>
</tr>
<tr>
<td>Harmonic Suppression</td>
<td>18 dB (Typ.)</td>
</tr>
<tr>
<td>Settling Time</td>
<td>3 mSec (Typ.) 2</td>
</tr>
<tr>
<td>Output Impedance</td>
<td>50 Ohms (Nom.)</td>
</tr>
<tr>
<td>Lock Detect Indicator</td>
<td>CMOS 3.3 V</td>
</tr>
</tbody>
</table>

Typical Phase Noise
- Offset @ 1 kHz: -92 dBc/Hz
- Offset @ 10 kHz: -92 dBc/Hz
- Offset @ 100 kHz: -115 dBc/Hz

Operating Parameters
- Temperature Range: -40 to +85 °C

Programmation
- See Application Note: AN7100
- Reference input frequency is programmable (see AN7100) in multiples of the step size, 10 MHz is the default setting, 150 MHz (Max.)
- From the rising edge of LE to stable lock detect

Absolute Maximum Ratings
- Storage Temp. Range: -55 to +125 °C
- Bias Voltage (Digital): +5.25 V
- Bias Voltage (Tune): +28 V
- Bias Voltage (VCO): +5.5 V
- DC Voltage Applied to RF Out: ±25 V

Approved Patents: 5,160,810; 5,122,621; 5,390,349; 5,416,449; 5,650,754; 5,805,431; 6,525,623; 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

Port Configuration
- Pin 1,2,3 - NC
- Pin 4 - Error flag
- Pin 5 - Latch Enable In
- Pin 6 - Ref. In
- Pin 7 - Vcc (Digital)
- Pin 8 - Clock In
- Pin 9 - Vcc (VCO)
- Pin 10 - All Others - Ground
- Pin 11 - RF Out
- Pin 12 - Lock Detect Out *
- Pin 13 - Data In

(n: High when locked (source/sink 500 uA)

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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
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HARMONIC SUPPRESSION

REFERENCE SIDEBAND SUPPRESSION

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PERFORMANCE PLOTS
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