SELECTABLE FREQUENCY SYNTHESIZER
SURFACE MOUNT MODEL: FCPH100120-15

1000 - 1250 MHz

OPTIMIZED BANDWIDTH

FEATURES:
► Exceptionally Low Phase Noise
► No Programming Required
► Lead Free - RoHS Compliant
► Patented REL-PRO® Technology
► Small Size, Surface Mount
► Buffered Output

SPECIFICATIONS (Rev. E 10/31/11)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>1000 - 1250 MHz</th>
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</thead>
<tbody>
<tr>
<td>Reference Input Frequency</td>
<td>15 MHz</td>
</tr>
<tr>
<td>Reference Input Voltage</td>
<td>1.0 V p-p to 3.3 V p-p</td>
</tr>
</tbody>
</table>

Bias Voltage

| Vcc 1 (Digital) | +5  | 15  |
| Vcc 2 (Vtune)  | +5  | 10  |
| Vcc 3 (VCO)    | +5  | 60  |

Lock Detect Indicator | CMOS 3.3 V
Output Power | +8 dBm (Min.)
Spurious Suppression | 75 dB (Typ.)
Harmonic Suppression | 10 dB (Typ.)
Power Up Time | 90 mSec (Typ.)
Output Impedance | 50 Ohms (Nom.)

Typical Phase Noise

<table>
<thead>
<tr>
<th>Offset @ kHz</th>
<th>Phase Noise (dBc/Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 kHz</td>
<td>-96 dBc/Hz</td>
</tr>
<tr>
<td>10 kHz</td>
<td>-93 dBc/Hz</td>
</tr>
<tr>
<td>100 kHz</td>
<td>-113 dBc/Hz</td>
</tr>
</tbody>
</table>

Operating Temperature Range | -40 to +85 °C

Absolute Maximum Ratings

| Storage Temp. Range | -55 to +125 °C |
| Bias Voltage (Digital) | +5.25 V |
| Bias Voltage (Tune)   | +16 V    |
| Bias Voltage (VCO)    | +5.5 V   |
| DC Voltage Applied to RF Out | ± 25 V |

* Voltage levels: 0V or gnd. / +5V or open.

LOCK DETECT INDICATOR

D3 D2 D1 D0 Freq. (MHz)

| 0 0 0 0 | 1000 |
| 0 0 0 1 | --   |
| 0 0 1 0 | --   |
| 0 1 0 0 | 1057.5 |
| 0 1 0 1 | --   |
| 0 1 1 0 | 1078  |
| 0 1 1 1 | 1100  |
| 1 0 0 0 | --   |
| 1 0 0 1 | --   |
| 1 0 1 0 | 1167.5|
| 1 0 1 1 | 1188  |
| 1 1 0 0 | --   |
| 1 1 0 1 | --   |
| 1 1 1 0 | --   |
| 1 1 1 1 | 1200  |

1 From stable power on to stable lock detect.
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PERFORMANCE PLOTS

Package # 273LF

PORT CONFIGURATION

- Pin 2 - D0
- Pin 3 - D1
- Pin 4 - D2
- Pin 5 - D3
- Pin 6 - Ref. In
- Pin 7 - Vcc 1 (Digital)
- Pin 8 - Vcc 2 (Tune)
- Pin 9 - Vcc 3 (VCO)
- Pin 10, 11, 12 - Ground
- Pin 13 - RF Out
- Pin 14 - Lock Detect *
- Pin 1, 15, 16 - NC

*High when locked (source/sink 500 uA)

TOLERANCES ON THREE DECIMAL PLACES= ± 0.015
PACKAGE MOUNTING: SEE APPLICATION NOTE AN7200 & AN7300
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HARMONIC SUPPRESSION

REFERENCE SIDEBAND SUPPRESSION
SELECTABLE FREQUENCY SYNTHESIZER
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