SELECTABLE FREQUENCY SYNTHESIZER
SURFACE MOUNT MODEL: FCPH110175-10

WIDE BANDWIDTH
1100 - 1750 MHz

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

SPECIFICATIONS (Rev. H 09/10/15)

Frequency
1100 - 1750 MHz

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>Digital</th>
<th>Vcc V (Vdc)</th>
<th>I (mA Max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>+5</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Tune</td>
<td>+12</td>
<td>10</td>
</tr>
<tr>
<td>VCO</td>
<td>+5</td>
<td>55</td>
</tr>
</tbody>
</table>

Lock Detect Indicator
CMOS 3.3 V

Output Power
+5 dBm (Min.)

Spurious Suppression
82 dB (Typ.)

Harmonic Suppression
15 dB (Typ.)

Power Up Time
90 mSec (Typ.)

Output Impedance
50 Ohms (Nom.)

Typical Phase Noise
<table>
<thead>
<tr>
<th>Offset</th>
<th>Phase Noise</th>
</tr>
</thead>
<tbody>
<tr>
<td>@ 10 kHz</td>
<td>-101 dBc/Hz</td>
</tr>
<tr>
<td>@ 100 kHz</td>
<td>-112 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

Binary Frequency Selection Table

<table>
<thead>
<tr>
<th>D3</th>
<th>D2</th>
<th>D1</th>
<th>D0</th>
<th>Freq. (MHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1530</td>
</tr>
<tr>
<td>0</td>
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<td>1600</td>
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<tr>
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<td>0</td>
<td>1770</td>
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<tr>
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<td>0</td>
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<td>1</td>
<td>1750</td>
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<td>1400</td>
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<td>0</td>
<td>1500</td>
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<td>1</td>
<td>1700</td>
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<td>1</td>
<td>0</td>
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<td>0</td>
<td>1640</td>
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<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>--</td>
</tr>
</tbody>
</table>

-- Reserved for future use.
* Voltage levels: 0V or gnd. / +5V or open.
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SURFACE MOUNT MODEL: FCPH110175-10
WIDE BANDWIDTH
1100 - 1750 MHz

Package # | 273LF
--- | ---

<table>
<thead>
<tr>
<th>Pin</th>
<th>Configuration</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>NC</td>
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<tr>
<td>2</td>
<td>D0</td>
</tr>
<tr>
<td>3</td>
<td>D1</td>
</tr>
<tr>
<td>4</td>
<td>D2</td>
</tr>
<tr>
<td>5</td>
<td>D3</td>
</tr>
<tr>
<td>6</td>
<td>Ref. In</td>
</tr>
<tr>
<td>7</td>
<td>Vcc (Digital)</td>
</tr>
<tr>
<td>8</td>
<td>Vcc (Tune)</td>
</tr>
<tr>
<td>9</td>
<td>Vcc (VCO)</td>
</tr>
<tr>
<td>10</td>
<td>Ground</td>
</tr>
<tr>
<td>11</td>
<td>Ground</td>
</tr>
<tr>
<td>12</td>
<td>Ground</td>
</tr>
<tr>
<td>13</td>
<td>RF Out</td>
</tr>
<tr>
<td>14</td>
<td>Lock Detect *</td>
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<tr>
<td>15</td>
<td>NC</td>
</tr>
<tr>
<td>16</td>
<td>NC</td>
</tr>
</tbody>
</table>

* High when locked (source/sink 500 uA)

PERFORMANCE PLOTS

Package Mounting: See Application Note AN7200 & AN7300

[Synergy Microwave Corporation]
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WIDE BANDWIDTH
1100 - 1750 MHz

PERFORMANCE PLOTS

HARMONIC SUPPRESSION

REFERENCE SIDEBAND SUPPRESSION

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E-Mail: sales@synergymwave.com • Website: http://www.synergymwave.com
Patents : http://www.synergymwave.com/patents
SELECTABLE FREQUENCY SYNTHESIZER
SURFACE MOUNT MODEL: FCPH110175-10

WIDE BANDWIDTH

1100 - 1750 MHz

REFERENCE SIDEBAND SUPPRESSION

PERFORMANCE PLOTS
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SURFACE MOUNT MODEL: FCPH110175-10

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PERFORMANCE PLOTS

HARMONIC SUPPRESSION

REFERENCE SIDEBAND SUPPRESSION

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Patents : http://www.synergymwave.com/patents
REFERENCE SIDEBAND SUPPRESSION

Ref: 10 dBm  
Att: 30 dB

1.425000000 GHz  
7.50 dBm

Delta 2 [T1]  
-87.39 dB

10.000000000 MHz

Delta 3 [T1]  
-89.45 dB

10.000000000 MHz

Date: 22.MAR.2007  17:29:42
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PERFORMANCE PLOTS

HARMONIC SUPPRESSION

REFERENCE SIDEBAND SUPPRESSION