Voltage Controlled Oscillator

**Description**
RJVC01 is 0.5 - 1.15 GHz, voltage controlled oscillator. It can operate at 1.2 V supply and consumes only 2.5 mA current. The tuning bandwidth of the oscillator is 650 MHz with good phase noise performance.

The RJV01 have designed on the CMOS 0.18 um Process. The die area is very small.

**Applications**
- CDMA
- WLAN

**Key Features**
- Large tuning bandwidth
- Low cost, low power
- Good phase noise
- Small Size

**Electrical Specification**
Conditions: Vcc = 1.2 V, V tune = 0.8-1.5 V & TA=25 ºC

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min</th>
<th>Typical</th>
<th>Max</th>
<th>Comment</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
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<td>717</td>
<td>1.15</td>
<td></td>
<td>GHz</td>
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<tr>
<td>Vout</td>
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<td></td>
<td></td>
<td></td>
<td>mV</td>
</tr>
<tr>
<td>Phase Noise @ 100 kHz</td>
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<td>-90</td>
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<td></td>
<td>dBC/Hz</td>
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<tr>
<td>Tuning bandwidth</td>
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<td>MHz</td>
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<td>Tuning Sensitivity</td>
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<td>MHz/V</td>
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<td></td>
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<tr>
<td>Tuning Voltage</td>
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<td></td>
<td>1.5</td>
<td></td>
<td>V</td>
</tr>
</tbody>
</table>
Simulated Results

- Frequency Drift Over Temp.
  - Frequency vs. Temperature
  - Frequency vs. V tune

- Noise vs. Frequency
  - Noise vs. V tune

- Power vs. Harmonic Index
  - Power vs. V tune

- Time vs. Voltage
  - Time vs. V tune