Voltage-Controlled Oscillator
Surface Mount Module

Applications
- PCS Handhelds
- Portable Receivers
- Mobile Communications

Application Notes
- AN-101: Mounting and Grounding
- AN-102: Output Loading
- AN-107: Manual Soldering

**Performance Specifications**

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oscillation Frequency Range</td>
<td>1870</td>
<td>1890</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Phase Noise @ 10 kHz offset (1 Hz BW)</td>
<td>-87</td>
<td></td>
<td>dBc/Hz</td>
<td></td>
</tr>
<tr>
<td>Harmonic Suppression (2nd)</td>
<td>-10</td>
<td>-8</td>
<td>dBc</td>
<td></td>
</tr>
<tr>
<td>Tuning Voltage</td>
<td>0.5</td>
<td>2.5</td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Tuning Sensitivity (avg.)</td>
<td>95</td>
<td></td>
<td>MHz/V</td>
<td></td>
</tr>
<tr>
<td>Power Output</td>
<td>3</td>
<td>5</td>
<td>7</td>
<td>dBm</td>
</tr>
<tr>
<td>Load Impedance</td>
<td>50</td>
<td></td>
<td>Ω</td>
<td></td>
</tr>
<tr>
<td>Input Capacitance</td>
<td>50</td>
<td></td>
<td>pF</td>
<td></td>
</tr>
<tr>
<td>Pushing</td>
<td>10</td>
<td></td>
<td>MHz/V</td>
<td></td>
</tr>
<tr>
<td>Pulling (20. dB Return Loss, Any Phase)</td>
<td>15</td>
<td></td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40</td>
<td>85</td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Package Style</td>
<td>SUB-L</td>
<td></td>
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</tbody>
</table>

**Power Supply Requirements**

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage (Vcc, nom.)</td>
<td>3</td>
<td></td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Supply Current (Icc)</td>
<td>14</td>
<td>18</td>
<td>mA</td>
<td></td>
</tr>
</tbody>
</table>

Additional Notes
**Voltage-Controlled Oscillator**

**Surface Mount Module**

**SMV1885L**

**Rev B2**

**Tuning Curve, typ.**

![Tuning Curve Diagram]

- **FREQUENCY (MHz)**
  - 1640
  - 1680
  - 1720
  - 1760
  - 1800
  - 1840
  - 1880
  - 1920
  - 1960
  - 2000

- **TUNING VOLTAGE (Vdc)**
  - 0
  - 0.5
  - 1
  - 1.5
  - 2
  - 2.5

- **Colors**
  - Red: 85°C
  - Black: 25°C
  - Blue: -40°C

**Power Curve, typ.**

![Power Curve Diagram]

- **POWER OUTPUT (dBm)**
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8

- **FREQUENCY (MHz)**
  - 1703
  - 1762
  - 1816
  - 1865
  - 1911
  - 1955

- **Colors**
  - Red: 85°C
  - Black: 25°C
  - Blue: -40°C

**Footprint**

- **RECOMMENDED FOOTPRINT**
  - Several holes of 0.015 on Gnd. plane are recommended for good grounding.
  - 0.030 min. cutback from live pads
  - 0.065 typ
  - 0.000
  - 0.120 typ
  - 0.120 typ
  - 0.242 typ

**Physical Dimensions**

- **NOTE:** All dimensions are in inches. TOL: XXX: +/- 0.010

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LFSuffix = RoHS Compliant. All specifications are subject to change without notice.

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