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>Specification</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oscillation Frequency Range</td>
<td>1815</td>
<td>1875</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Phase Noise @ 10 kHz offset (1 Hz BW)</td>
<td>-92</td>
<td>dBc/Hz</td>
<td></td>
<td></td>
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<tr>
<td>Harmonic Suppression (2nd)</td>
<td>-10</td>
<td>-6</td>
<td>dBc</td>
<td></td>
</tr>
<tr>
<td>Tuning Voltage</td>
<td>0.3</td>
<td>4.7</td>
<td>Vdc</td>
<td></td>
</tr>
<tr>
<td>Tuning Sensitivity (avg.)</td>
<td>83</td>
<td>MHz/V</td>
<td></td>
<td></td>
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<tr>
<td>Power Output</td>
<td>4.5</td>
<td>7</td>
<td>9.5</td>
<td>dBm</td>
</tr>
<tr>
<td>Load Impedance</td>
<td>50</td>
<td>Ω</td>
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<td></td>
</tr>
<tr>
<td>Input Capacitance</td>
<td>50</td>
<td>pF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pushing</td>
<td>7</td>
<td>MHz/V</td>
<td></td>
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</tr>
<tr>
<td>Pulling (20. dB Return Loss, Any Phase)</td>
<td>7</td>
<td>MHz</td>
<td></td>
<td></td>
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<tr>
<td>Operating Temperature Range</td>
<td>-40</td>
<td>85</td>
<td>°C</td>
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<tr>
<td>Package Style</td>
<td>SUB-L</td>
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</table>

Power Supply Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Supply Voltage (Vcc, nom.)</td>
<td>5</td>
<td>Vdc</td>
<td></td>
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<tr>
<td>Supply Current (Icc)</td>
<td>16</td>
<td>19</td>
<td>mA</td>
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</tbody>
</table>
**Voltage-Controlled Oscillator**

**Surface Mount Module**

**SMV1845-LF**

**Rev B2**

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**Tuning Curve, typ.**

![Tuning Curve Diagram]

**FREQUENCY (MHz)**

0 0.6 1.2 1.8 2.4 3 3.6 4.2 4.7

**TUNING VOLTAGE (Vdc)**

- **85°C**
- **25°C**
- **-40°C**

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**Power Curve, typ.**

![Power Curve Diagram]

**FREQUENCY (MHz)**

**POWER OUTPUT (dBm)**

- **85°C**
- **25°C**
- **-40°C**

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**Footprint**

**Recommended Footprint**

- Several holes of 0.015 on ground plane are recommended for good grounding.

**Physical Dimensions**

**Package**

- **H**

**Pin Configuration**

- **Vcc**
- **RF Out**
- **Gnd**

**Dimensions**

- **TOL: XXX: +/- 0.010**

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

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