Ultra-Low Phase Noise
Frequency Doubling
SAW Based VCSO

Model CVCSO-914SXT is a voltage-controlled SAW (surface acoustic wave) Clock Oscillator (VCSO). SAW crystal technology provides low-noise and low-jitter performance with true sinewave output. Features include -133 dBC/Hz phase noise at 10 kHz offset at 1.6 GHz, 5V input voltage, -20°C to +70°C operating temperature, and 9×14 mm SMT package. The oscillator’s second harmonic is typically -20 dBC.

Applications include PLL frequency translation, test and measurement, avionics, point-to-point radios, and multi-point radios.
**Ultra-Low Phase Noise**

**Frequency Doubling**

**SAW Based VCSO**

**CVCSO-914SXT Model**

9×14 mm SMD, 5.0V, SineWave

**Frequency Range:**
1244.160 MHz to 2000 MHz

**Temperature Range:**
-20°C to +70°C (standard)
-20°C to +70°C (Option I): 0°C to 85°C
-20°C to +70°C (Option X): -40°C to 85°C

**Storage:**
-40°C to 90°C

**Input Voltage:**
5.0V ±0.25V

**Control Voltage Range:**
0V to 5.0V

**Tuning Sensitivity (Kv):**
+120 ppm/V Typical

**Settability At Nominal (25°C):**
1.5V +0.5V -1.0V

**Frequency vs Temperature:**
±200ppm Typical

**Input Current:**
60mA Typical, 70mA Max

**Output:**

- **Pullability APR:**
  - True SineWave
  - ±50ppm Min
  - ±20% Max

- **Linearity:**
  - +8dBm Min into 50 Ω Load
  - ±20% Max

- **Output Power:**
  - >20kHz @ -3dB

- **Start-Up Time:**
  - 2ms Typical, 10ms Max

- **2nd Harmonic:**
  - -20dBc Typical
  - -15dBc Max

- **(Nominal Frequency)/2:**

- **Modulation BW:**
  - >20kHz @ -3dB

**G-sensitivity:**
0.9×10⁻⁹ per G

**Weight:**
0.816 g

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**Package Height Options (Max)**

<table>
<thead>
<tr>
<th>Pad</th>
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<tbody>
<tr>
<td>1</td>
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<td>2</td>
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<tr>
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</tr>
<tr>
<td>4</td>
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**Table A**

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**PAD FINISH:** Immersion Gold (ENIG); 5 micro inches maximum

**SUGGESTED PAD LAYOUT**

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**Date:** 13-Nov-2019

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CVCSO-914SXT Model
9×14 mm SMD, 5.0V, SineWave

Available Frequencies (MHz):
1244.160
1500
1600
2000

Custom Frequencies Available with NRE Fee

**RECOMMENDED REFLOW SOLDERING PROFILE**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Conditions</th>
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<tbody>
<tr>
<td>Mechanical Vibration</td>
<td>MIL-STD-883, Method 2007, Condition A</td>
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<tr>
<td>Solderability</td>
<td>MIL-STD-883, Method 2003</td>
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<tr>
<td>Solvent Resistance</td>
<td>MIL-STD-202, Method 215</td>
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<tr>
<td>Resistance to Soldering Heat</td>
<td>MIL-STD-202, Method 210, Condition I or J</td>
</tr>
<tr>
<td>Thermal Shock</td>
<td>MIL-STD-883, Method 1011, Condition A</td>
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<tr>
<td>Moisture Resistance</td>
<td>MIL-STD-883, Method 1004</td>
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NOTE: Reflow Profile with 240°C peak also acceptable.

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