Model CCSO-914X3-1000 is a 1 GHz SAW (surface acoustic wave) Clock Oscillator (CCSO). SAW crystal technology provides low-noise and low-jitter performance with true sinewave output. Features include -142dBC/Hz phase noise at 10kHz offset, 3.3V input voltage, -40°C to +85°C operating temperature, FR5 PCB and 9×14 mm SMT package. The oscillator has no sub-harmonic and the second harmonic is typically -25dBC.

Applications include:
System Clock for Network Clock Generator/Synchronizer, Clock for DDS, Test and Measurement, Avionics, Point-to-Point Radios, and Multi-point Radios.
Frequency: 1 GHz
Temperature Range: -40°C to +85°C
Storage: -45°C to 90°C
Input Voltage: 3.3V ± 0.15V

Frequency vs Temperature: ±150ppm Typical
Input Current: 25mA Typical, 35mA Max
Output: True SineWave
Output Power: +5dBm Min into 50 Ω Load
Start-Up Time: 2ms Typical, 10ms Max
2nd Harmonic: -20dBc Typical
Sub-Harmonics: None
Jitter: SONET OC-48(12kHz~80MHz)
              Phase Noise Typical: 0.18ps RMS Typical, 0.20ps RMS Max
SONET OC-192(50kHz~80MHz)
              0.12ps RMS Typical, 0.15ps RMS Max

Phase Noise Typical:
1kHz -112 dBc/Hz
10kHz -142 dBc/Hz
100kHz -155 dBc/Hz
1MHz -167 dBc/Hz
10MHz -168 dBc/Hz

G-sensitivity: 0.9×10⁻⁹ per g

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

Table A

<table>
<thead>
<tr>
<th>Pad</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N/C</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
</tr>
<tr>
<td>3</td>
<td>Output</td>
</tr>
<tr>
<td>4</td>
<td>Vdd</td>
</tr>
</tbody>
</table>

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

See Table A
CCSO-914X3-1000
True SineWave
SAW Based Clock Oscillator
9×14mm SMD
3.3 Volt

**RECOMMENDED REFLOW SOLDERING PROFILE**

- **Temperature**
  - Preheat: 180 Secs. Max. 8 Minutes Max.
  - 260°C for 90 Secs. Max.
  - Critical Temperature Zone: 217°C
  - Ramp-Up: 3°C/Sec Max.
  - Ramp-Down: 6°C/Sec.

**Parameter** | **Conditions**
---|---
Mechanical Vibration | MIL-STD-883, Method 2007, Condition A
Solderability | MIL-STD-883, Method 2003
Solvent Resistance | MIL-STD-202, Method 215
Resistance to Soldering Heat | MIL-STD-202, Method 210, Condition I or J
Thermal Shock | MIL-STD-883, Method 1011, Condition A
Moisture Resistance | MIL-STD-883, Method 1004

**NOTE:** Reflow Profile with 240°C peak also acceptable.

**Crystek Part Number Guide**

**CCSO - 914X3 L - 1000**

- #1 Crystek Saw Osc.
- #2 Model 914 with -40/85°C Temperature Range
- #3 Height (L = 0.135") (Blank = 0.210")

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