

CCSO-914X

True SineWave

SAW Based Clock Oscillator

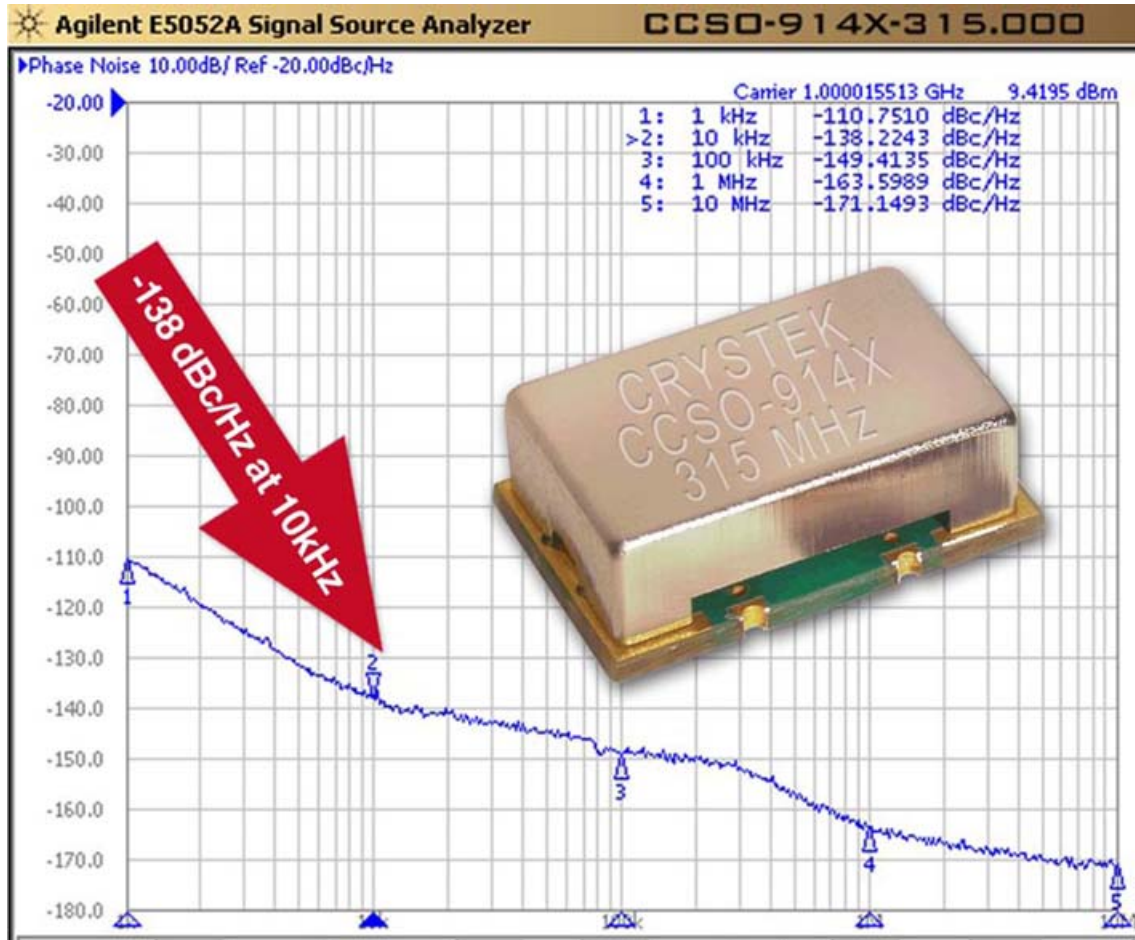
9×14mm SMD

3.3 & 5.0 Volt

*Ultra-Low Phase Noise SAW Clock*

Frequency Range:

300MHz to 916MHz



Model CCSO-914X is a SAW (surface acoustic wave) Clock Oscillator (CCSO). SAW crystal technology provides low-noise and low-jitter performance with true sinewave output. Features include -138dBc/Hz phase noise at 10kHz offset, 3.3V & 5V input voltage available, -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 -20dBc.

Applications include:

System Clock for Network Clock Generator/Synchronizer, Clock for DDS, Test and Measurement, Avionics, Point-to-Point Radios, and Multi-point Radios.

Rev: D

Date: 20-Dec-10

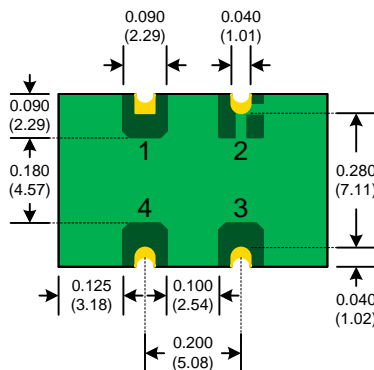
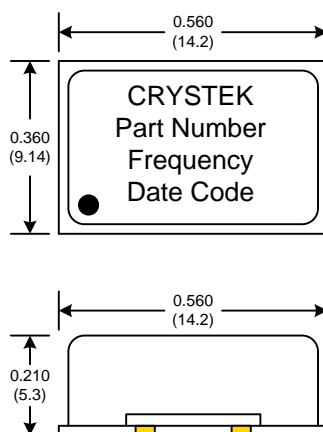
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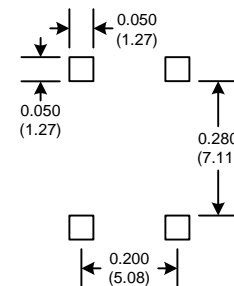
<b>Frequency Range:</b>	<b>300MHz to 916MHz</b>
<b>Temperature Range:</b>	<b>-40°C to +85°C</b>
<b>Storage:</b>	<b>-45°C to 90°C</b>
<b>Input Voltage:</b>	<b>(option 3) 3.3V ± 0.165V</b> <b>(standard) 5.0V ± 0.25V</b>
<b>Frequency vs Temperature:</b>	<b>±100ppm Typ.</b>
<b>Input Current:</b>	<b>25mA Typ., 35mA Max</b>
<b>Output:</b>	<b>True SineWave</b>
<b>Output Power:</b>	<b>+8dBm Min. into 50 Ω Load</b>
<b>Start-Up Time:</b>	<b>2mSec Typ., 10mSec Max</b>
<b>2<sup>nd</sup> Harmonic:</b>	<b>-20dBc Typ., -15dBc Max</b>
<b>Sub-Harmonics:</b>	<b>None</b>
<b>Modulation BW:</b>	<b>&gt;20kHz @ -3dB</b>
<b>Jitter:</b>	
<b>SONET OC-48(12kHz~80MHz)</b>	<b>0.18ps RMS Typ., 0.20ps RMS Max</b>
<b>SONET OC-192(50kHz~80MHz)</b>	<b>0.12ps RMS Typ., 0.15ps RMS Max</b>

**Phase Noise Typical:**

<b>1kHz</b>	<b>-110 dBc/Hz</b>
<b>10kHz</b>	<b>-138 dBc/Hz</b>
<b>100kHz</b>	<b>-150 dBc/Hz</b>
<b>1MHz</b>	<b>-160 dBc/Hz</b>
<b>10MHz</b>	<b>-170 dBc/Hz</b>



**SUGGESTED PAD LAYOUT**

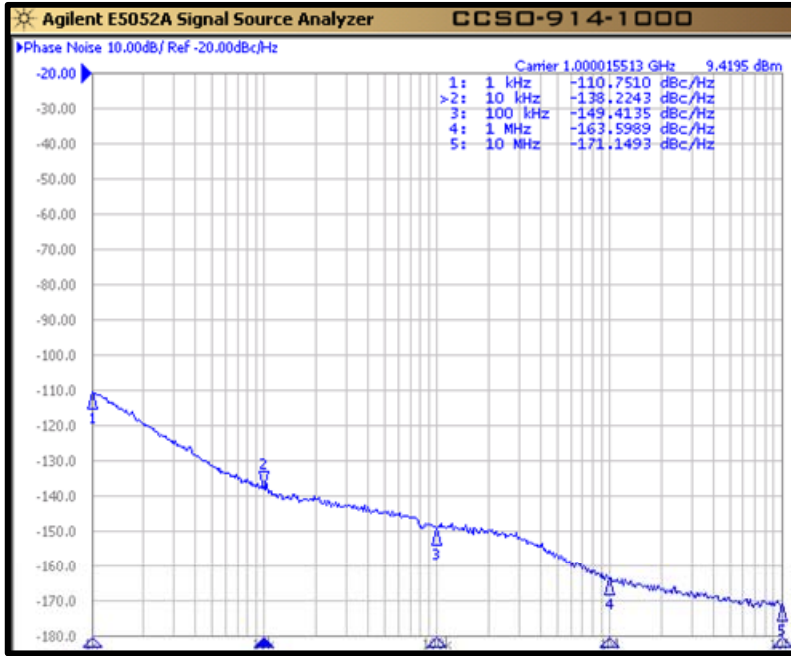


Pad	Connection
1	N/C
2	GND
3	Output
4	Vdd

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9×14mm SMD  
3.3 & 5.0 Volt



Available Frequencies (MHz):

300.000	622.017	666.604300
302.000	622.018	669.416900
310.000	622.080	669.577
315.500	622.164	690.650260
359.400	622.310	800.000
433.920	644.608590	868.350
500.300	644.769	916.000

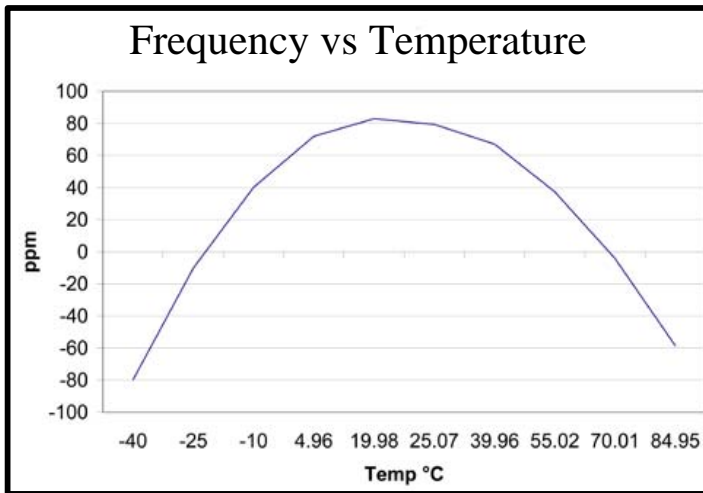
Custom Frequencies Available with NRE Fee

**Crystek Part Number Guide**

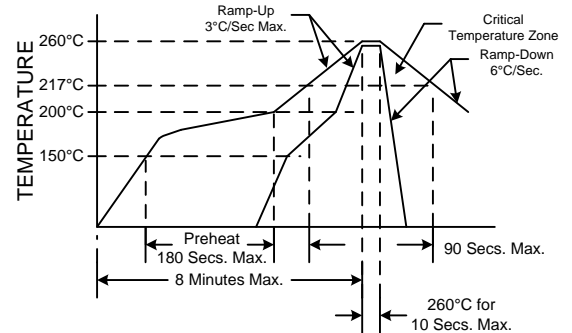
**CCSO - 914X - 3 - 315.000**

#1 #2 #3 #4

- #1 Crystek Saw Osc.
- #2 Model 914 with -40/85°C Temperature Range
- #3 (3 = 3.3Volts) (Blank = 5 Volts)
- #4 Frequency in MHz: 3 or 6 decimal places



**RECOMMENDED REFLOW SOLDERING PROFILE**



Parameter	Conditions
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
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

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