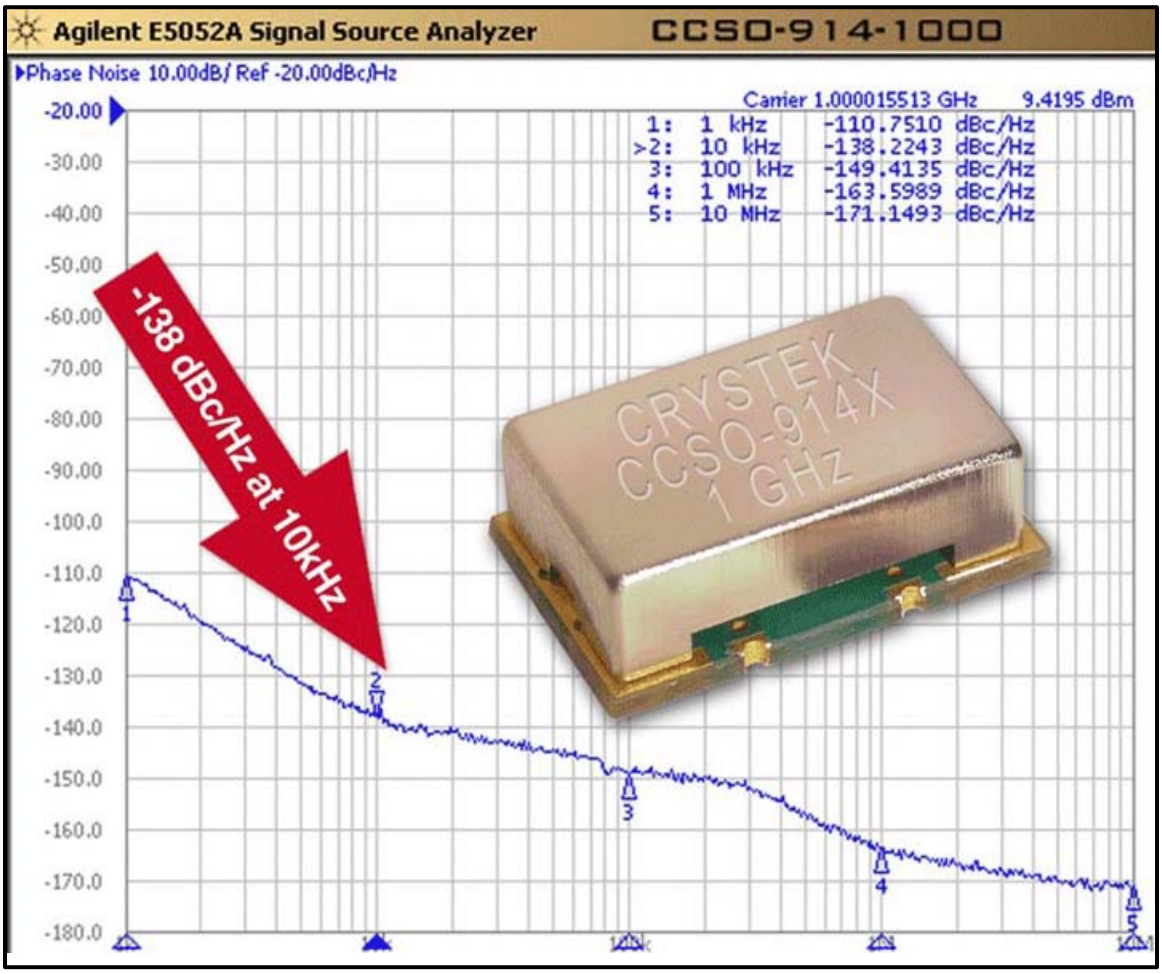
CRYSTEK CRYSTALS
A DIVISION OF CRYSTEK CORPORATION

RoHS Compliant

CCSO-914X-1000
True SineWave
SAW Based Clock Oscillator
9×14mm SMD
5 Volt

Ultra-Low Phase Noise 1GHz SAW Clock



Model CCSO-914X-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 -138dBc/Hz phase noise at 10kHz offset, 5V 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 -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.

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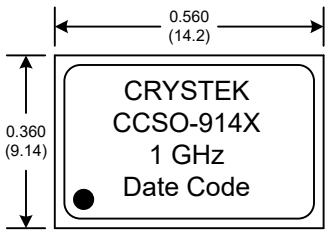
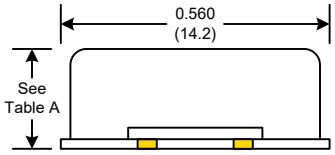
Frequency:	**1 GHz**
Temperature Range:	**-40°C to +85°C**
Storage:	**-45°C to 90°C**
Input Voltage:	**5.0V ± 0.25V**
Frequency vs Temperature:	**±150ppm Typical**
Input Current:	**25mA Typical, 35mA Max**
Output:	**True SineWave**
Output Power:	**+8dBm Min into 50 Ω Load**
Start-Up Time:	**2mSec Typical, 10mSec Max**
2nd Harmonic:	**-20dBc Typical, -15dBc Max**
Sub-Harmonics:	**None**
Jitter:	
SONET OC-48(12kHz~80MHz)	**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	**-110 dBc/Hz**
10kHz	**-138 dBc/Hz**
100kHz	**-150 dBc/Hz**
1MHz	**-160 dBc/Hz**
10MHz	**-170 dBc/Hz**

G-sensitivity: **0.9×10^{-9} per g**

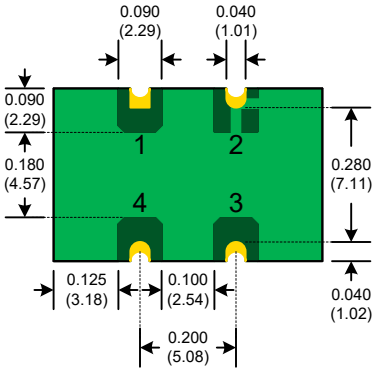




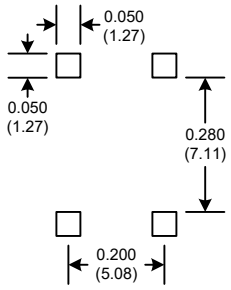
Package Height Options

	inches	mm
Standard	0.210	5.33
Option L	0.135	3.43

Table A



SUGGESTED PAD LAYOUT



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

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

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Specifications subject to change without notice.

CRYSTEK CORPORATION
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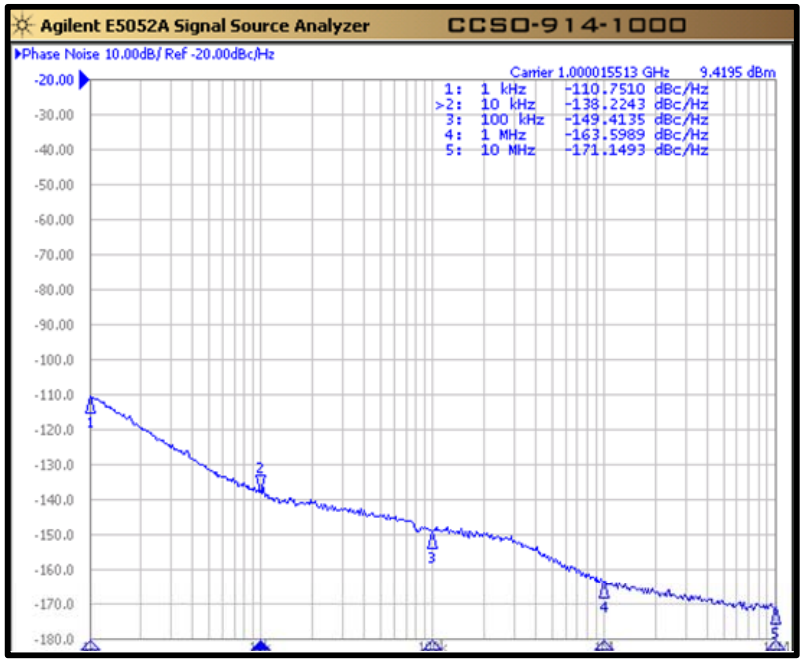
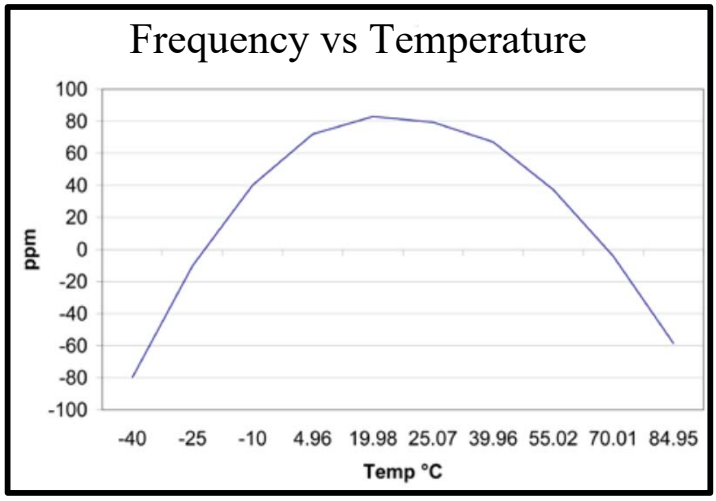
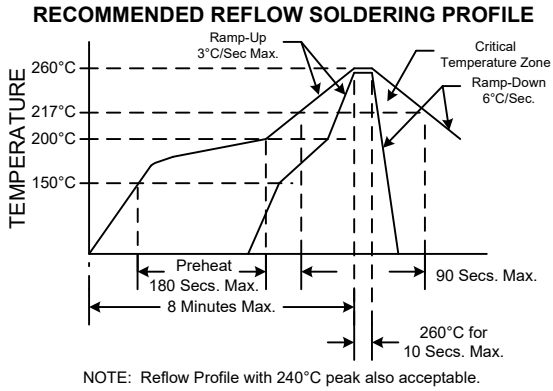


Crystek Part Number Guide

CCSO - 914X L - 1000
#1 #2 #3

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





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

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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