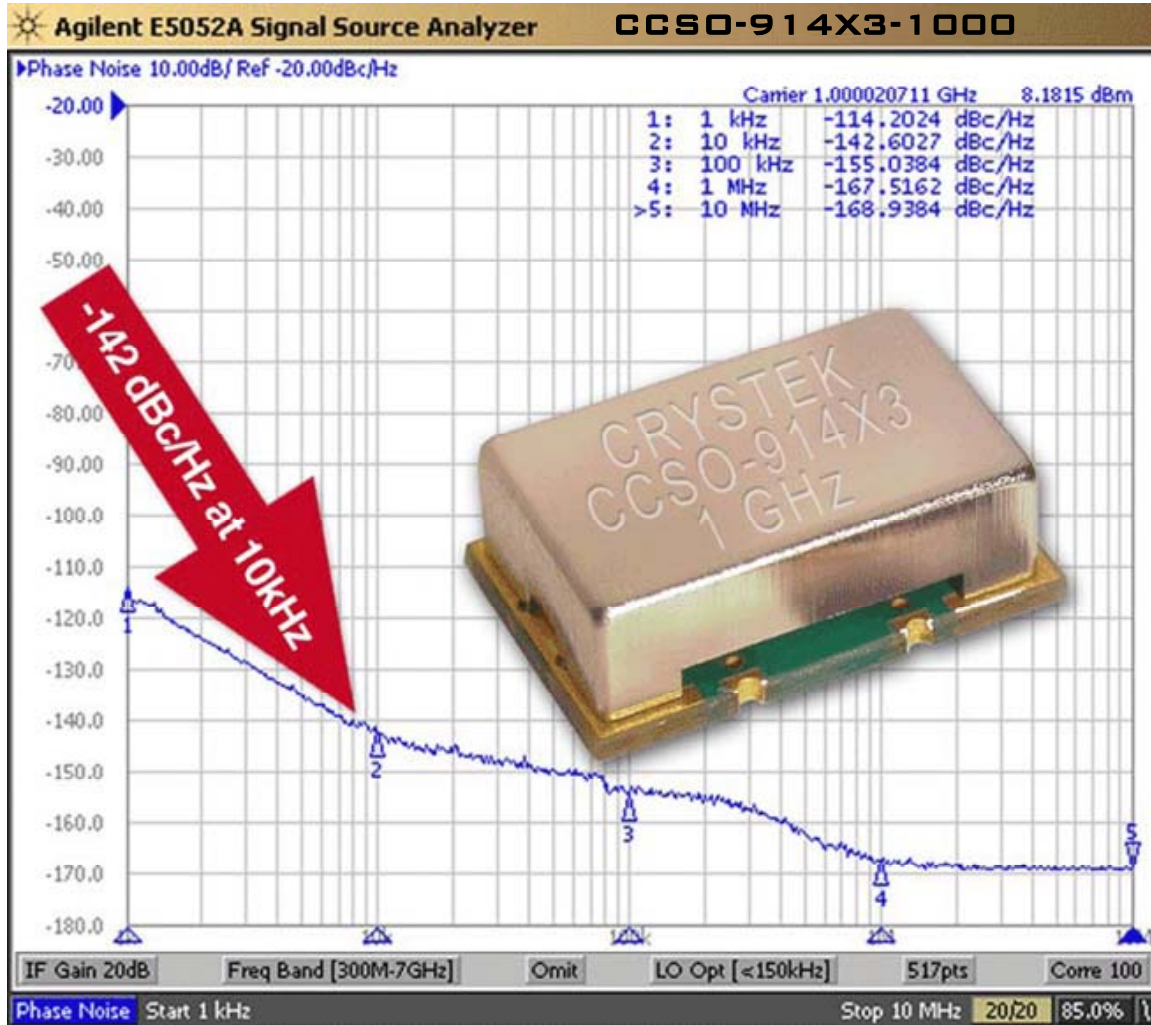


*Ultra-Low Phase Noise 1GHz SAW Clock*



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.

Rev: K
Date: 18-Jan-2017
Page 1 of 3

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



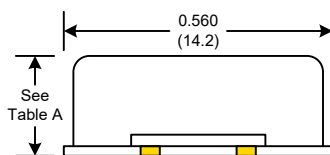
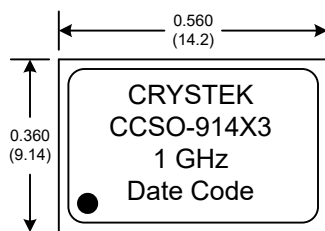
**Frequency:** 1 GHz  
**Temperature Range:** -40°C to +85°C  
**Storage:** -45°C to 90°C  
**Input Voltage:** 3.3V ± 0.15V

**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:** 2mSec Typical, 10mSec Max  
**2<sup>nd</sup> Harmonic:** -25dBc Typical, -20dBc 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 -112 dBc/Hz  
10kHz -142 dBc/Hz  
100kHz -155 dBc/Hz  
1MHz -167 dBc/Hz  
10MHz -168 dBc/Hz

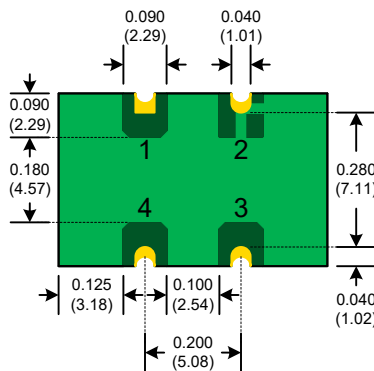
**G-sensitivity:** 0.9×10<sup>-9</sup> per g



Package Height Options

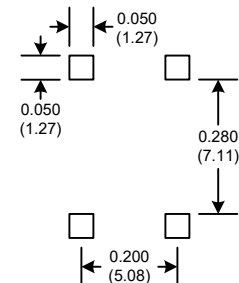
	inches	mm
Standard	0.210	5.33
Option L	0.135	3.43

Table A

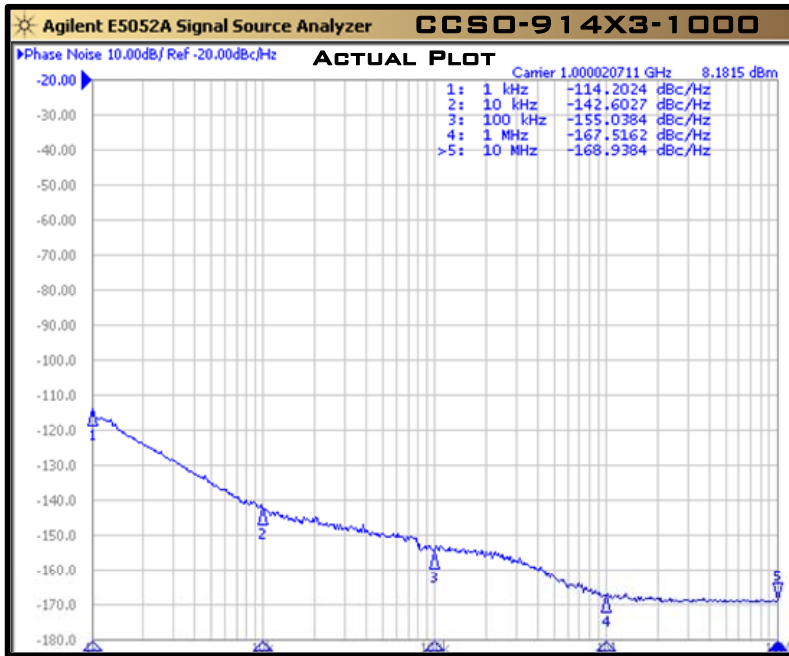


Pad	Connection
1	N/C
2	GND
3	Output
4	Vdd

**SUGGESTED PAD LAYOUT**



Rev: K  
Date: 18-Jan-2017  
Page 2 of 3

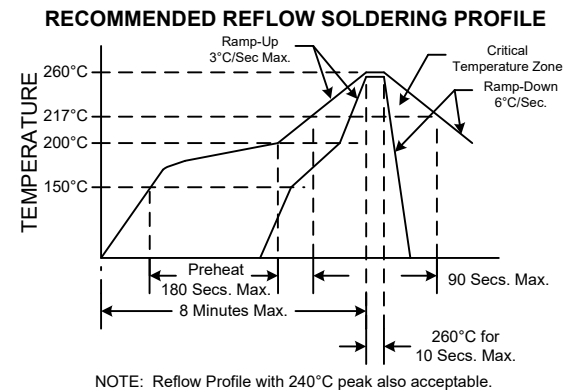
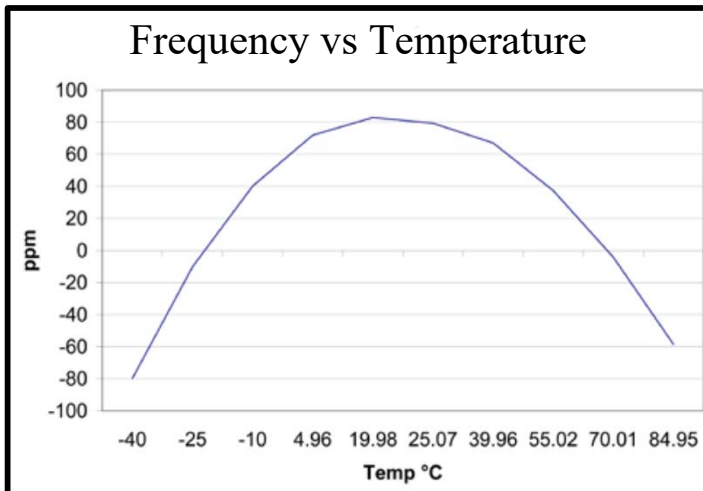


**Crystek Part Number Guide**

CCSO - 914X3 L - 1000

#1 #2 #3

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



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

Rev: K  
Date: 18-Jan-2017  
Page 3 of 3