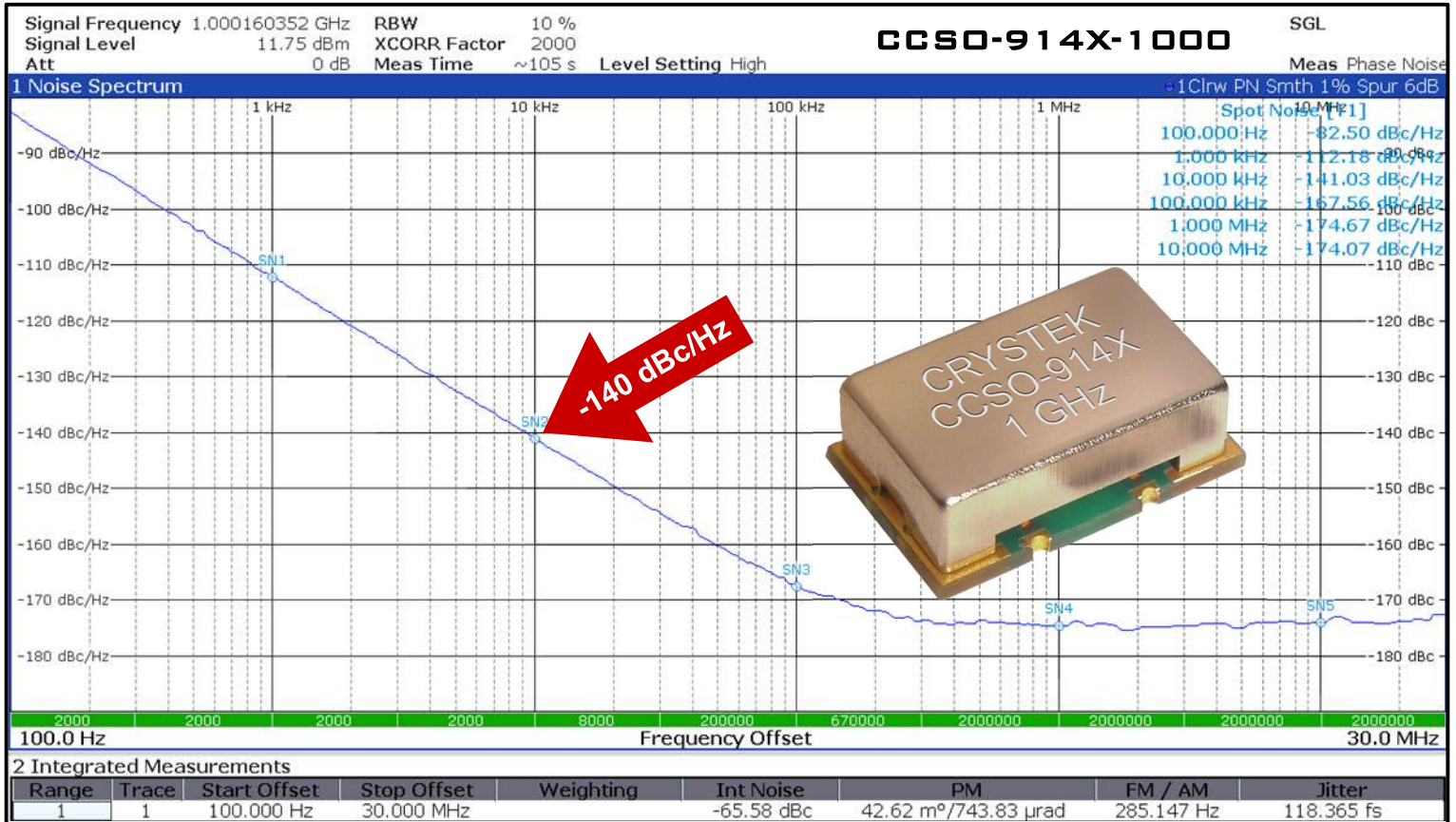


*Ultra-Low Phase Noise 1GHz SAW Clock*

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



**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 -140dBc/Hz phase noise at 10 kHz 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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CCSO-914X-1000  
True SineWave  
SAW Based Clock Oscillator  
9×14mm SMD



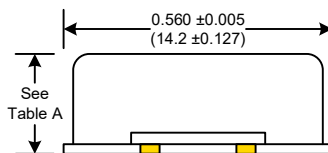
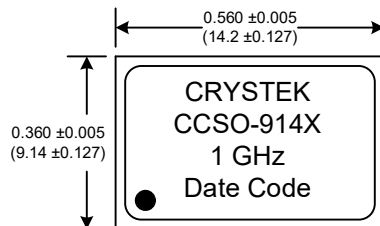
**Frequency:** 1 GHz  
**Temperature Range:** -40°C to +85°C  
**Storage:** -45°C to 90°C  
**Input Voltage:** 5.0V ± 0.25V

**Frequency vs Temperature:** ±200ppm Typical  
**Input Current:** 25mA Typical, 35mA Max  
**Output:** True SineWave  
**Output Power:** +8dBm Min into 50 Ω Load  
**Start-Up Time:** 2ms Typical, 10ms Max  
**2<sup>nd</sup> Harmonic:** -20dBc Typical, -15dBc Max  
**Sub-Harmonics:** None  
**Jitter:** See Plot on page 1



**Phase Noise Typical:** See Plot on page 1

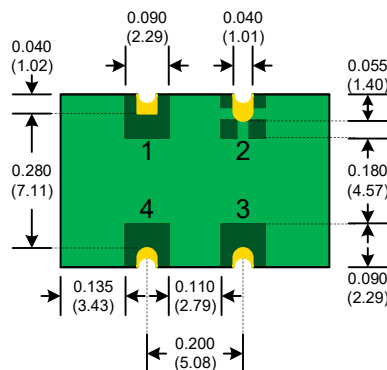
**G-sensitivity:** 0.9×10<sup>-9</sup> per g



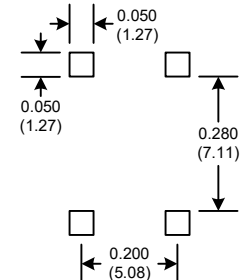
Package Height Options

	inches	mm
Standard	0.210	5.33
Option L	0.135	3.43

Table A



**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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# CCSO-914X-1000

## True SineWave

### SAW Based Clock Oscillator

#### 9×14mm SMD

#### 5 Volt

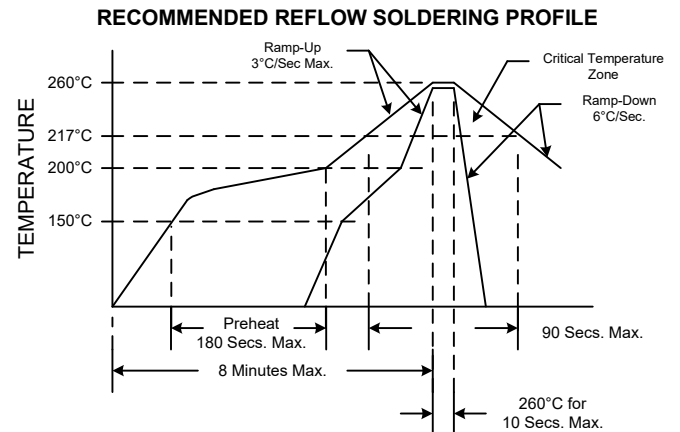
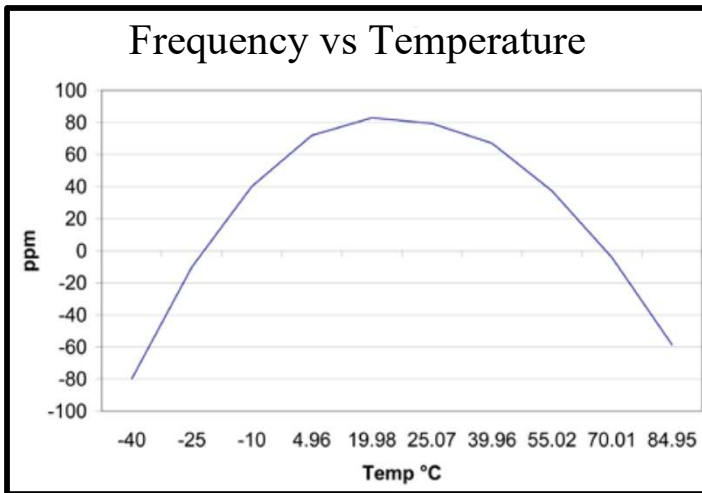


### Crystek Part Number Guide

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