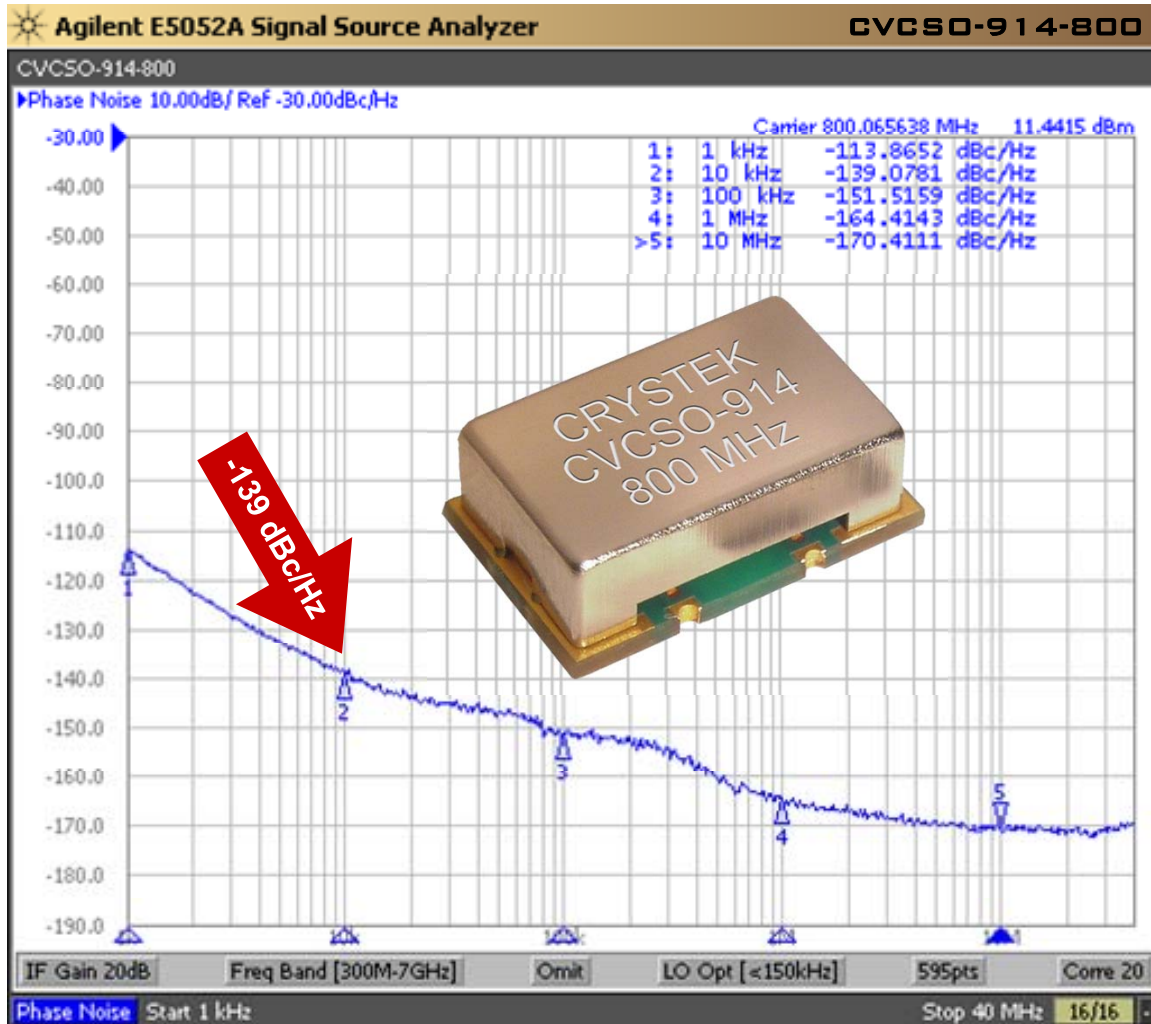


*Ultra-Low Phase Noise SAW VCSO*



Model CVCSO-914 is a voltage-controlled SAW (surface acoustic wave) Clock Oscillator (VCSO). SAW crystal technology provides low-noise and low-jitter performance with true sinewave output. Features include -135 dBc/Hz phase noise at 10 kHz offset at 1 GHz, 5V input voltage, -20°C to +70°C operating temperature, and 9×14 mm SMT package. The oscillator has no sub-harmonic and the second harmonic is typically -20 dBc.

Applications include PLL frequency translation, test and measurement, avionics, point-to-point radios, and multi-point radios.

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**CVCSO-914**  
True SineWave  
SAW Based VCSO  
9×14mm SMD  
5 Volt

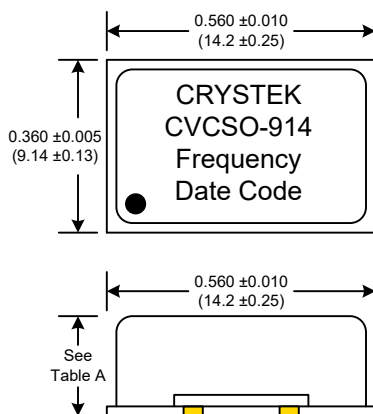


**Frequency Range:** 245.760 MHz to 1000 MHz  
**Temperature Range:** 0°C to +70°C  
     CVCSO-914A option 0°C to +50°C  
     CVCSO-914M option -20°C to +70°C  
     CVCSO-914X option -40°C to +85°C  
**Storage:** -40°C to 90°C  
**Input Voltage:** 5.0V ±0.25V  
**Control Voltage Range:** 0V to 5.0V  
**Tuning Sensitivity (Kv):** +120 ppm/V Typical  
**Settability At Nominal (25°C):** 1.5V +0.5V -1.0V  
**Frequency vs Temperature:** ±200ppm Typical  
**Input Current:** 25mA Typical, 35mA Max



**Output:** True SineWave  
**Pullability APR:** ±50ppm Min  
**Linearity:** ±20% Max  
**Output Power:** +10dBm Min into 50 Ω Load  
**Start-Up Time:** 2mSec Typical, 10mSec Max  
**2<sup>nd</sup> Harmonic:** -20dBc Typical, -15dBc Max  
**Sub-Harmonics:** None  
**Modulation BW:** >20kHz @ -3dB

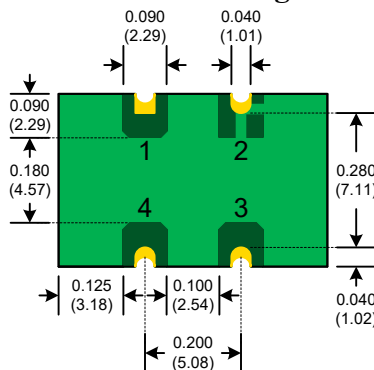
**G-sensitivity:** 0.9×10<sup>-9</sup> per G  
**Weight:** 0.816 g



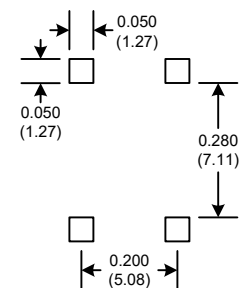
Package Height Options

	inches	mm
Standard	0.210	5.33
Option L	0.135	3.43

Table A



**SUGGESTED PAD LAYOUT**

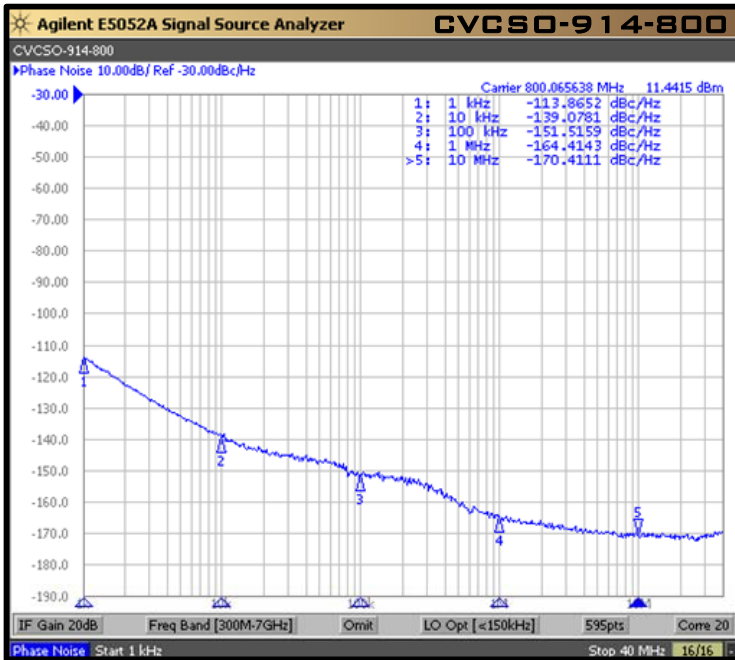


**PAD FINISH:** Immersion Gold (ENIG); 5 micro inches maximum

Pad	Connection
1	Volt. Control
2	GND
3	Output
4	Vdd

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Available Frequencies (MHz):

245.760	840.000
250.000	916.000
640.000	1000.000
800.000	

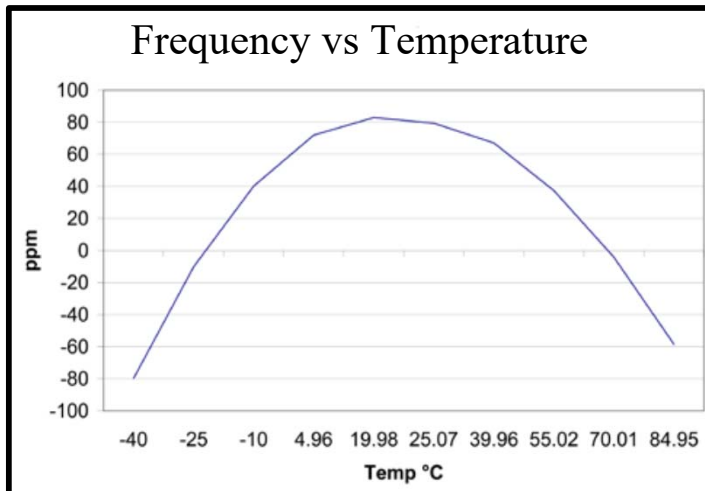
Custom Frequencies Available with NRE Fee

**Crystek Part Number Guide**

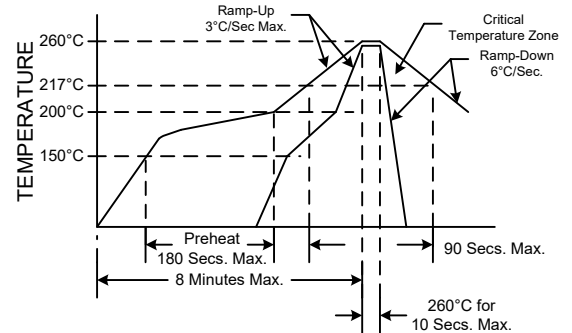
CVCSO - 914 X L - 640.000

#1 #2 #3 #4 #5

- #1 Crystek Saw Voltage Controlled Oscillator
- #2 Model 914
- #3 Temperature Range (X = -40/85°C) (M = -20/70°C)  
(Blank = 0/70°C)
- #4 Height (L = 0.135") (Blank = 0.210")
- #5 Frequency in MHz: 3 or 6 decimal places



**RECOMMENDED REFLOW SOLDERING PROFILE**

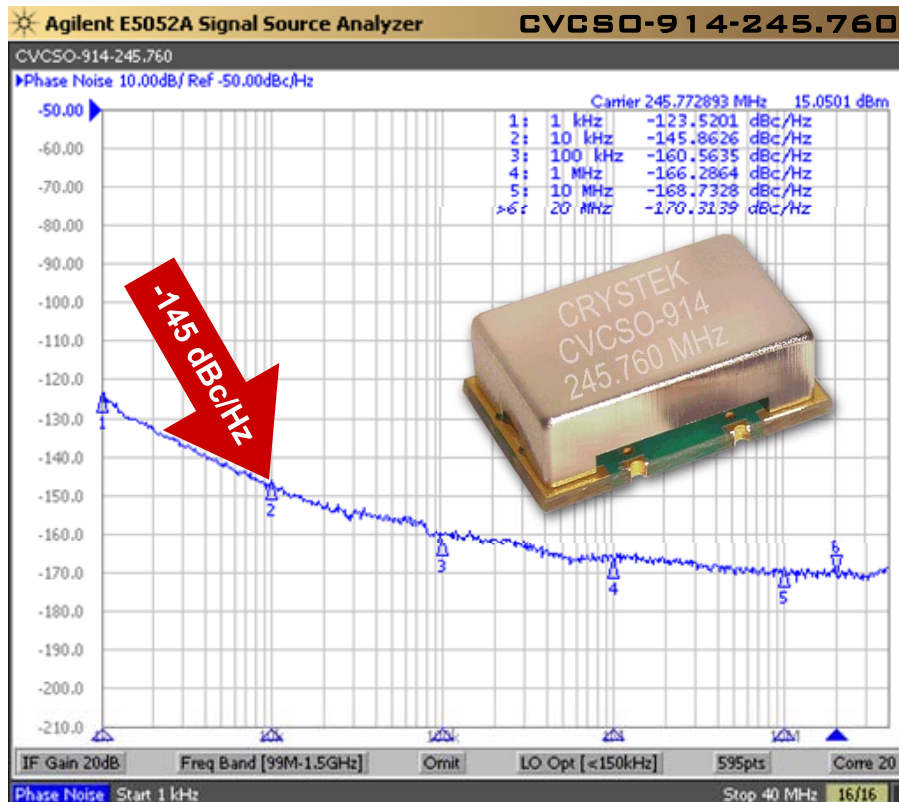
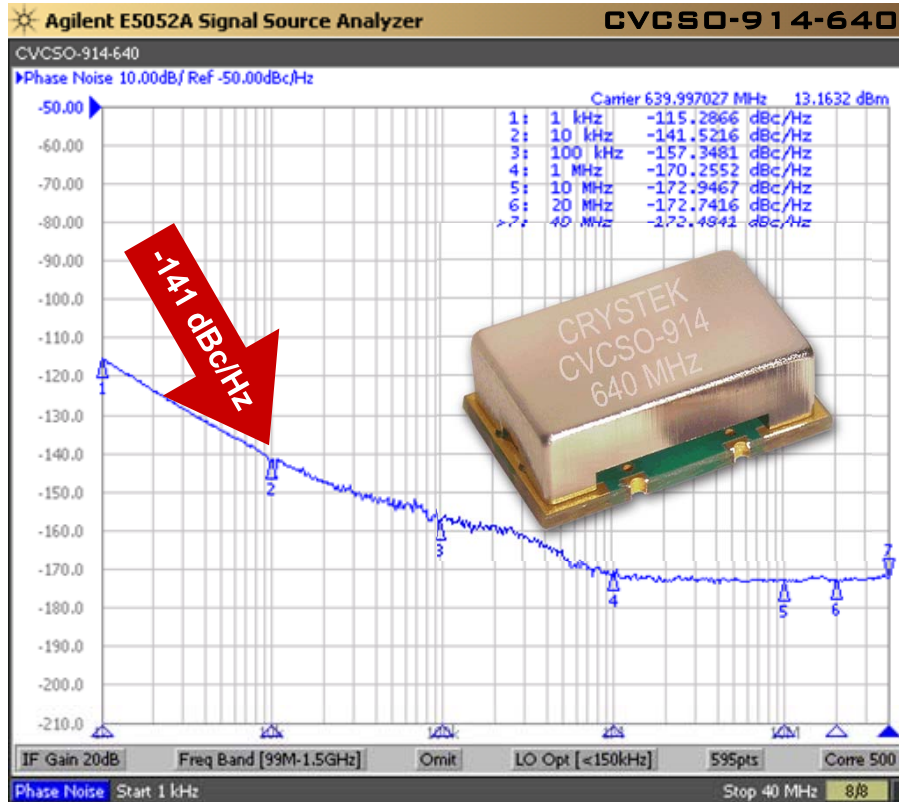


NOTE: Reflow Profile with 240°C peak also acceptable.

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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