



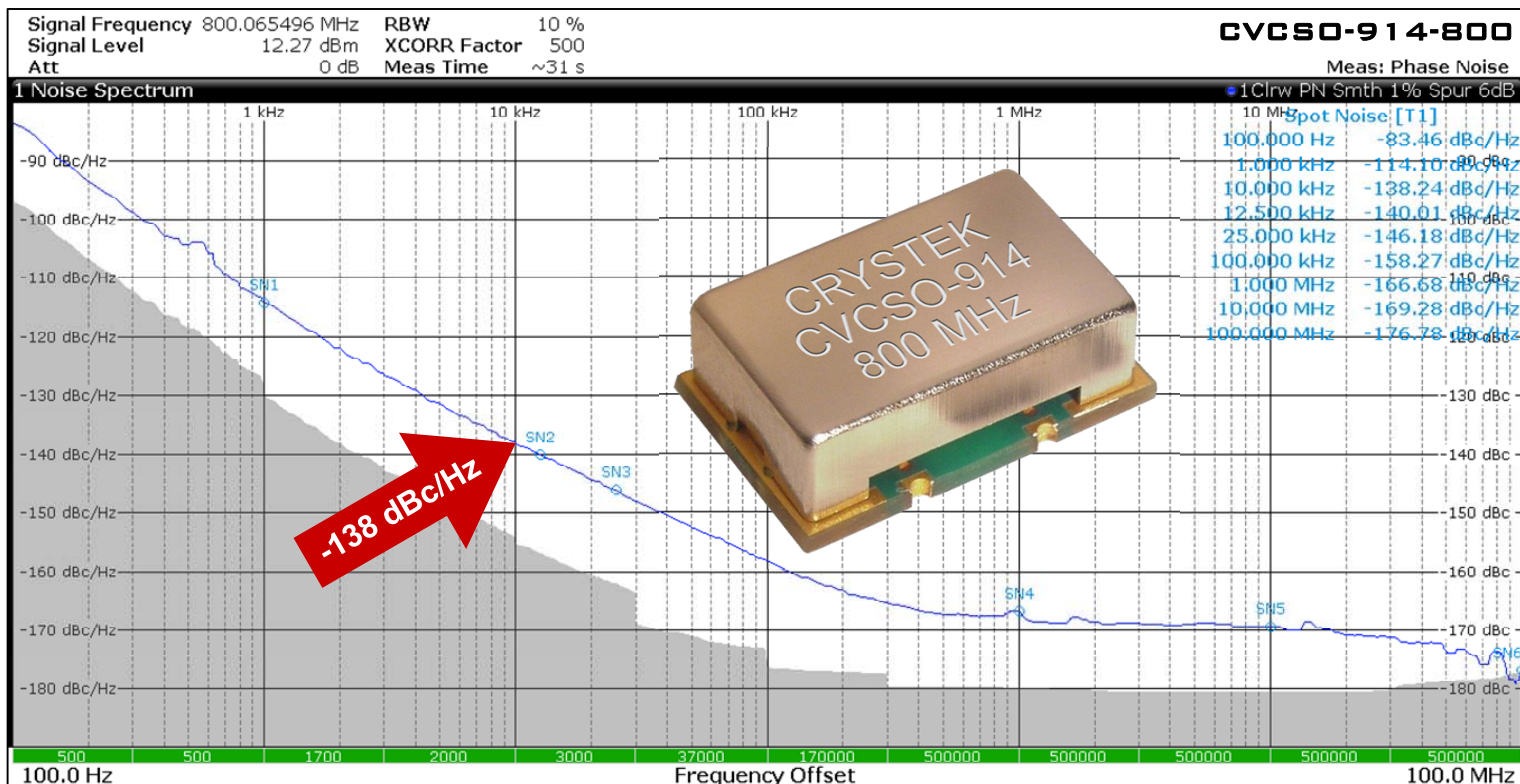
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CRYSTALS
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Ultra-Low Phase Noise True SineWave SAW Based VCOSO

CVCSO-914 Model

9×14 mm SMD, 5.0V, SineWave



Model CVCSO-914 is a voltage-controlled SAW (surface acoustic wave) Clock Oscillator (VCOSO). 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.

Rev: W

Date: 08-Dec-2021

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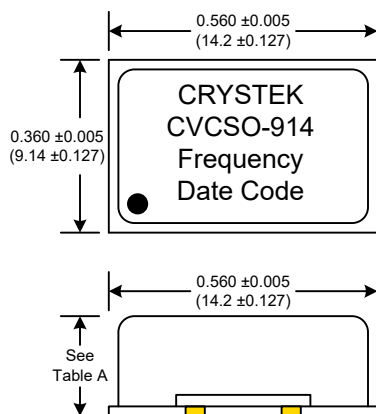
CVCSO-914 Model
9×14 mm SMD, 5.0V, SineWave

Frequency Range: 500.000 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: 2ms Typical, 10ms Max
2nd Harmonic: -20dBc Typical, -15dBc Max
Sub-Harmonics: None
Modulation BW: >20kHz @ -3dB

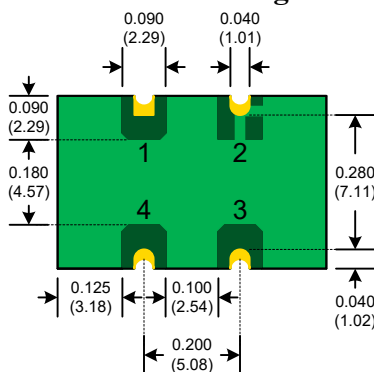
G-sensitivity: 0.9×10⁻⁹ per G
Weight: 0.816 g



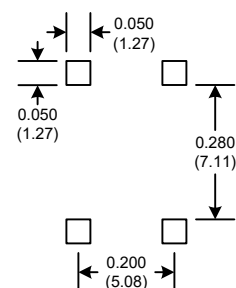
Package Height Options (Max)

	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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Crystek Part Number Guide

CVCSO - 914 X L - 640.000

#1 #2 #3 #4 #5

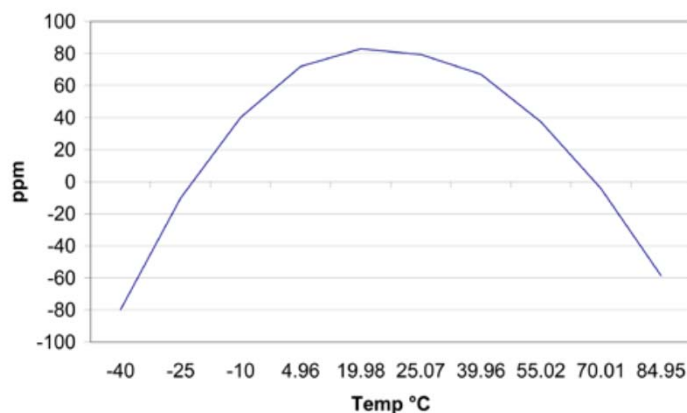
- #1 Crystek Saw Voltage Controlled Oscillator
- #2 Model 914
- #3 Temperature Range (X = -40/85°C) (M = -20/70°C)
(Blank = 0/70°C)
- #4 Height (L = 0.135") (Blank = 0.210")
- #5 Frequency in MHz: 3 or 6 decimal places

Available Frequencies (MHz):

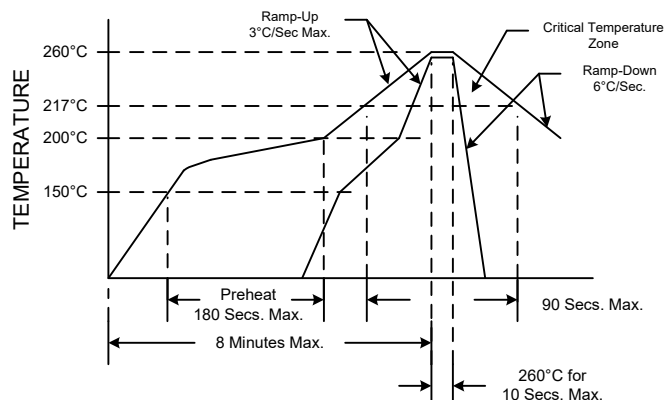
640.000	916.000
800.000	1000.000
840.000	

Custom Frequencies Available with NRE Fee

Frequency vs Temperature



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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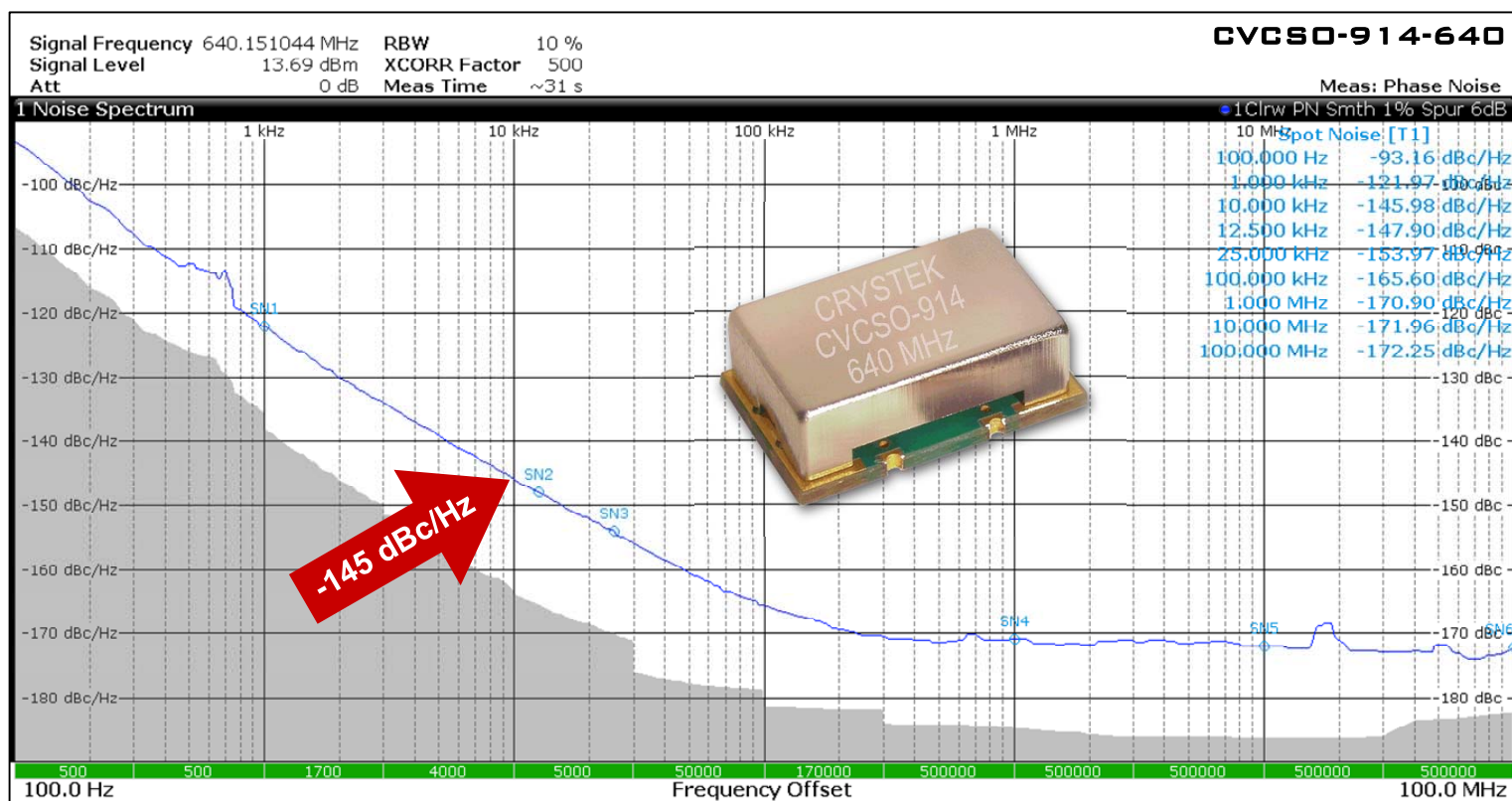
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