CRYSTEK CRYSTALS
A Division of Crystek Corporation

Ultra-Low Phase Noise SAW VCSO

CVCSO-914M3

True SineWave
SAW Based VCSO
9×14mm SMD
3.3 Volt

RoHS Compliant

Model CVCSO-914M3 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, 3.3V input voltage, 0°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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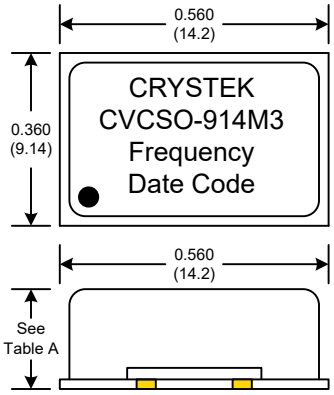
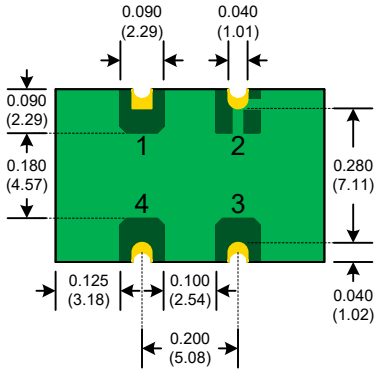
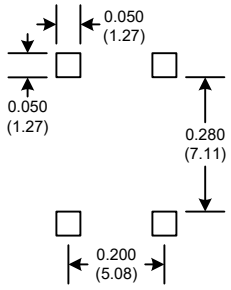
Frequency Range:	**250 MHz to 1090 MHz**
Temperature Range:	**0°C to +70°C**
Storage:	**-40°C to 90°C**
Input Voltage:	**3.3V ±5%**
Control Voltage Range:	**0V to 3.3V**
Settability At Nominal (25°C):	**+0.5V to 2.0V**
Frequency vs Temperature:	**±200ppm Typical**
Tuning Sensitivity (Kv):	**+120ppm/V Typical**
Input Current:	**25mA Typical, 35mA Max**
Output:	**True SineWave**
Pullability APR:	**±50ppm Min**
Linearity:	**±20% Max**
Output Power:	**+8dBm Min into 50 Ω Load**
Start-Up Time:	**2mSec Typical, 10mSec Max**
2nd Harmonic:	**-20dBc Typical, -15dBc Max**
Sub-Harmonics:	**None**
Modulation BW:	**>20kHz @ -3dB**
Phase Jitter: 12kHz~80MHz	**<1ps RMS (1-sigma) Max**
Phase Noise (Typical):	
1kHz	**-105 dBc/Hz**
10kHz	**-135 dBc/Hz**
100kHz	**-145 dBc/Hz**
1MHz	**-160 dBc/Hz**
10MHz	**-170 dBc/Hz**
G-sensitivity:	**0.9×10^{-9} per g**





SUGGESTED PAD LAYOUT



Package Height Options

	inches	mm
Standard	0.210	5.33
Option L	0.135	3.43

Table A

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

Rev: F
Date: 18-Jan-2017

Specifications subject to change without notice.

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Available Frequencies (MHz):

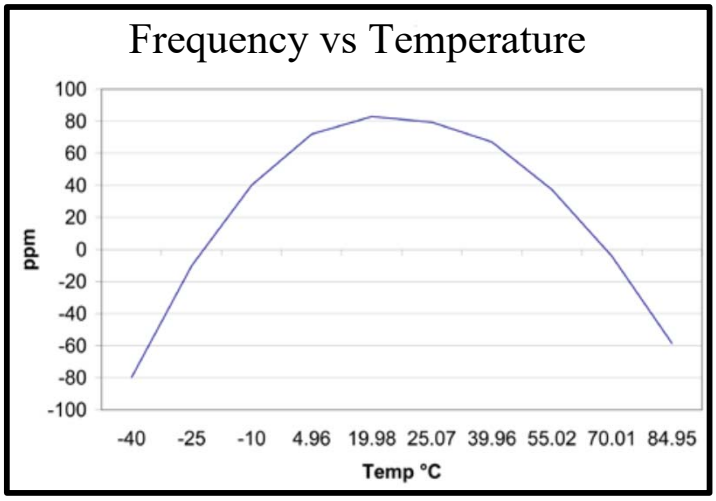
250.000	916.000
640.000	1000.000
800.000	1090.000
840.000	

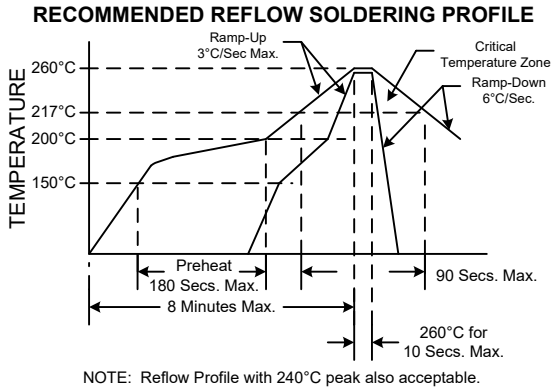
Custom Frequencies Available with NRE Fee

Crystek Part Number Guide

CVCSO - 914M3 L - 640.000
#1 #2 #3 #4

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





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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