

*Ultra-Low Phase Noise SAW VCSO*

CVCSO-914X3-240.000

True SineWave

SAW Based VCSO

9×14mm SMD

3.3 Volt



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, -40°C to +85°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.

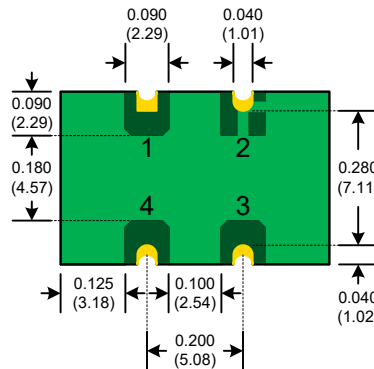
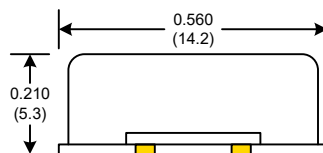
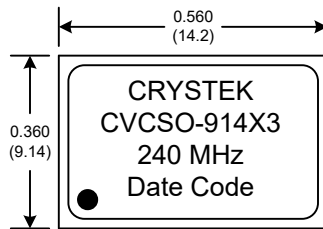
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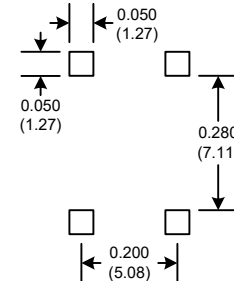
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**Frequency Range:** 240.000 MHz  
**Temperature Range:** -40°C to +85°C  
**Storage:** -40°C to 90°C  
**Input Voltage:** 3.3V ±5%  
**Control Voltage Range:** 0V to 3.3V  
**Settability At Nominal (25°C):** +0.4V to 2.0V  
**Frequency vs Temperature:** ±200ppm Typical  
**Tuning Sensitivity (Kv):** +120ppm/V Typical  
**Input Current:** 20mA Typical, 30mA Max

**Output:** True SineWave  
**Pullability APR:** ±20ppm Min  
**Linearity:** ±20% Max  
**Output Power:** +8dBm 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  
**Phase Noise (Typical):** See Plot  
**G-sensitivity:** 0.9×10<sup>-9</sup> per g



**SUGGESTED PAD LAYOUT**



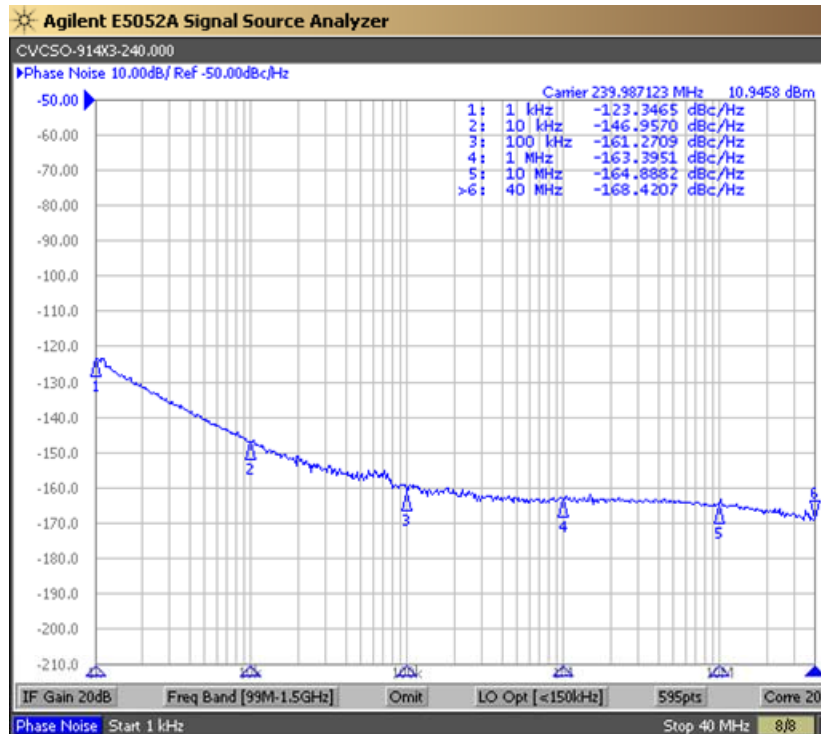
**PAD FINISH:** Immersion Gold (ENIG); 5 micro inches maximum

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

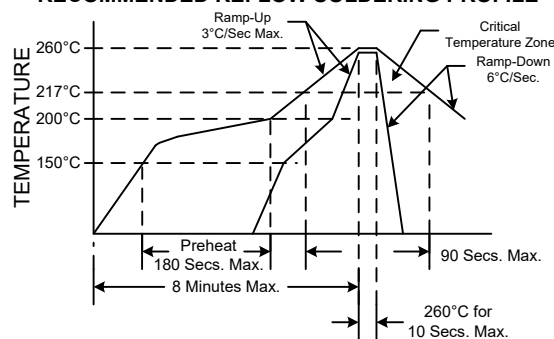
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**RECOMMENDED REFLOW SOLDERING PROFILE**



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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