

Ultra-Low Phase Noise 1GHz SAW VCSO

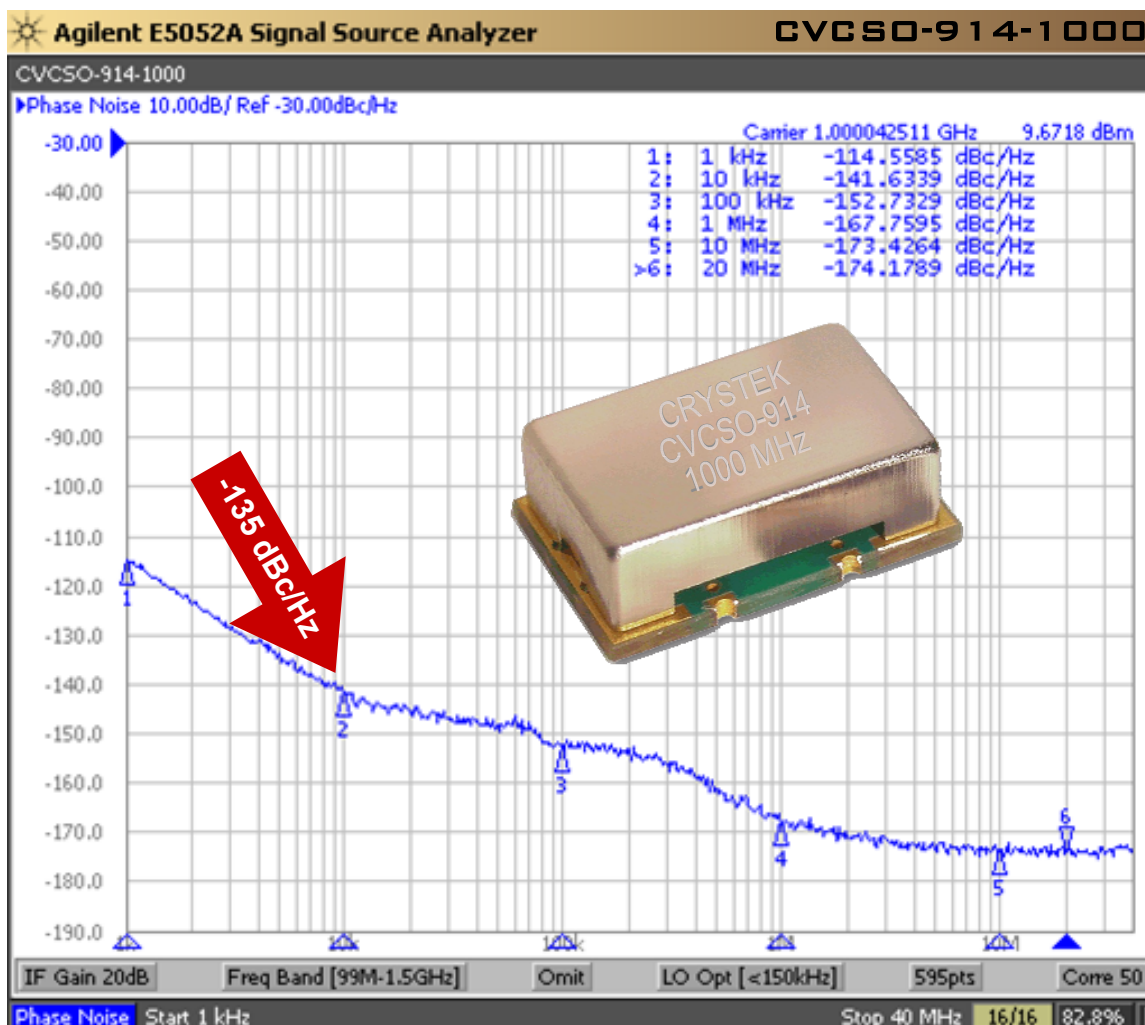
CVCSO-914-1000

True SineWave

SAW Based VCSO

9×14mm SMD

5 Volt



Model CVCSO-914-1000 is a 1 GHz 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, 5V input voltage, -20°C to +70°C operating temperature, and 9×14 mm SMT package. The CVCSO-914X offers an operating temperature range of -40°C to +85°C. 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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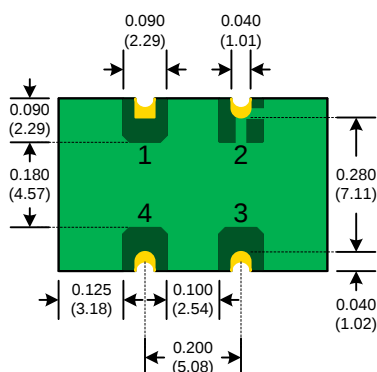
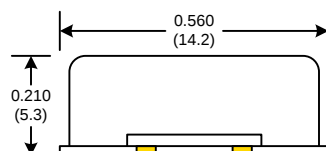
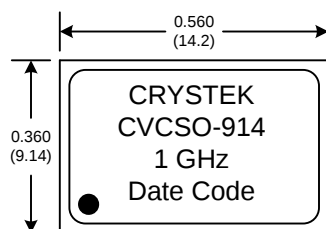
9×14mm SMD

5 Volt



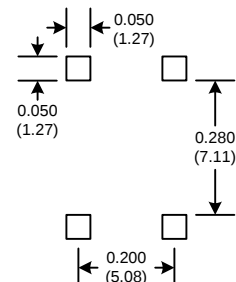
Frequency: 1 GHz
Temperature Range: -20°C to +70°C
CVCSO-914X-1000 option
-40°C to +85°C
Storage: -40°C to 90°C
Input Voltage: 5.0V ±0.25V
Control Voltage Range: 0V to 5.0V
Settability At Nominal (25°C): 1.5V ±0.5V
Tuning Sensitivity (Kv): +120ppm/V
Frequency vs Temperature: ±100ppm Typical
Input Current: 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
2nd Harmonic: -20dBc Typical, -15dBc Max
Sub-Harmonics: None
Modulation BW: >20kHz @ -3dB
Phase Noise Typical:
1kHz -105 dBc/Hz
10kHz -138 dBc/Hz
100kHz -150 dBc/Hz
1MHz -160 dBc/Hz
10MHz -170 dBc/Hz
G-sensitivity: 0.9×10⁻⁹ per g

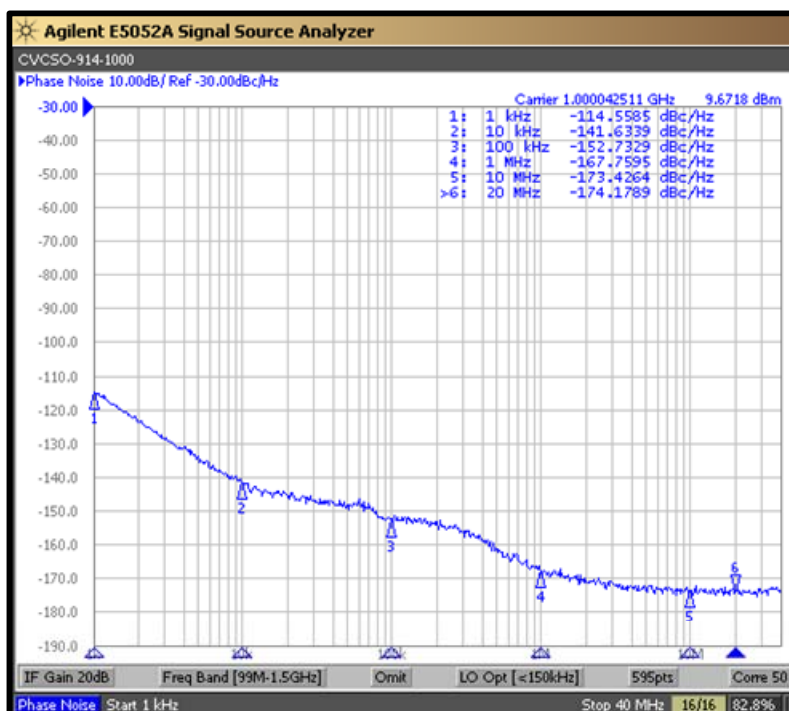


Pad	Connection
1	Volt. Control
2	GND
3	Output
4	Vdd

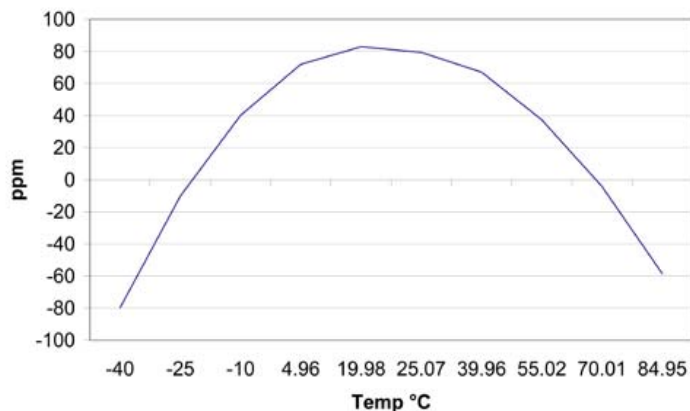
SUGGESTED PAD LAYOUT



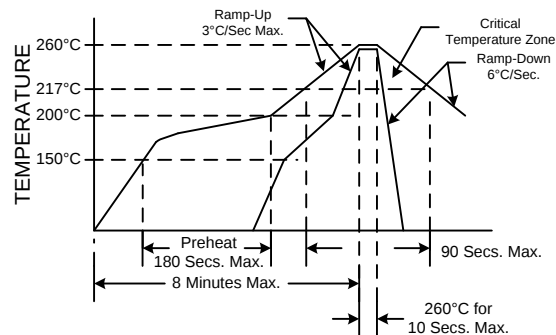
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Frequency vs Temperature



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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Mouser Electronics

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