CRYSTEK
CRYSTALS
A DIVISION OF CRYSTEK CORPORATION

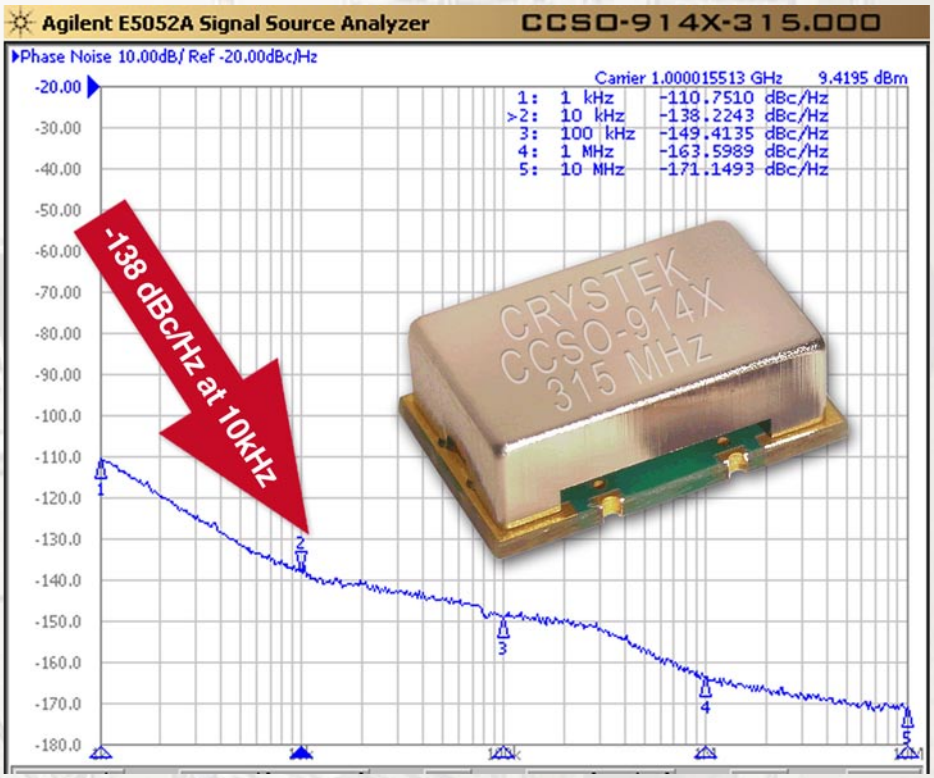
CCSO-914X

TRUE SINEWAVE
SAW BASED CLOCK OSC
9X14MM SMD
3.3 & 5.0 VOLT

RoHS Compliant

Ultra-Low Phase Noise SAW Clock

Freqency Range:
300MHz to 916MHz



Model CCSO-914X is a SAW (surface acoustic wave) Clock Oscillator (CCSO). SAW crystal technology provides low-noise and low-jitter performance with true sinewave output. Features include -138dBc/Hz phase noise at 10kHz offset, 3.3V & 5V input voltage available, -40 to +85C operating temperature, FR5 PCB and 9x14 mm SMT package. The oscillator has no sub-harmonic and the second harmonic is typically -20dBc.

Applications include:
System Clock for Network Clock Generator/Synchronizer, Clock for DDS, Test and Measurement, Avionics, Point-to-Point Radios, and Multi-point Radios.

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Date: 11-08-07

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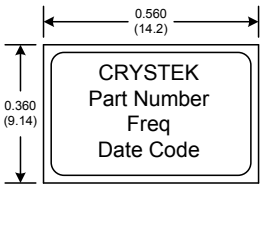
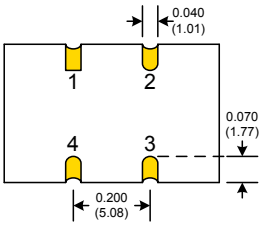
Frequency :		**300MHz to 916MHz**
Temperature Range:		**-40°C to 85°C**
Storage:		**-45°C to 90°C**
Input Voltage:	**(option 3)**	**3.3V ± 0.165V**
	(std.)	**5.0V ± 0.25V**
Freq. vs Temp.		**±100ppm Typ.**
Input Current:		**25mA Typ., 35mA Max**
Output:		**True SineWave**
Output Power:		**+8dBm Min. into 50 Ohm Load**
Start-up time:		**2ms Typ., 10ms Max**
2nd Harmonic:		**-20dBc Typ., -15dBc Max**
Sub-harmonics:		**None**
Modulation BW:		**>20KHz @ -3dB**
Jitter:		
SONET OC-48(12KHz~80MHz)		**0.18ps RMS Typ., 0.20ps RMS Max**
SONET OC-192(50KHz~80MHz)		**0.12ps RMS Typ., 0.15ps RMS Max**

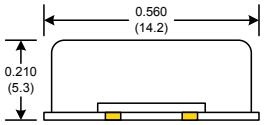
Phase Noise Typical:

1KHz	**-110 dBc/Hz**
10KHz	**-138 dBc/Hz**
100KHz	**-150 dBc/Hz**
1MHz	**-160 dBc/Hz**
10MHz	**-170 dBc/Hz**

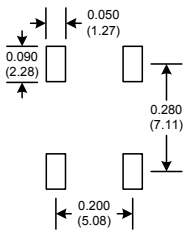




Pad	Connection
1	N/C
2	GND
3	Output
4	Vdd



SUGGESTED PAD LAYOUT



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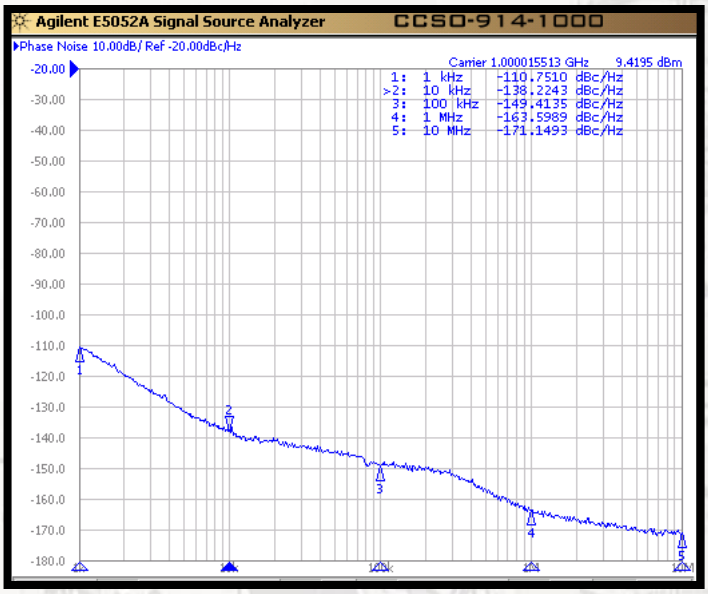


Available Frequencies (MHz):

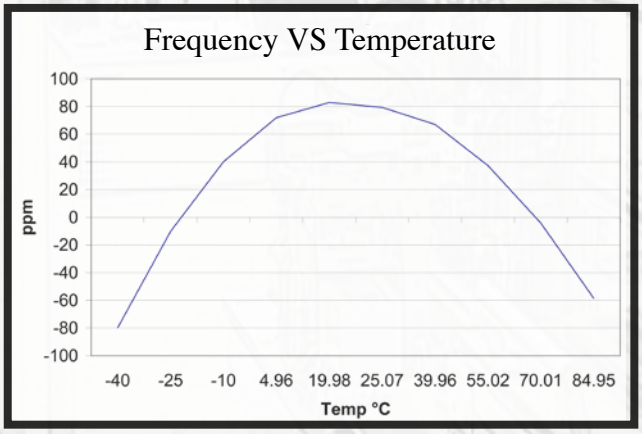
300.00	622.017	666.6043
302.00	622.018	669.4169
310.00	622.08	669.577
315.50	622.164	690.65026
359.40	622.31	800.00
433.92	644.60859	868.35
500.30	644.769	916.00

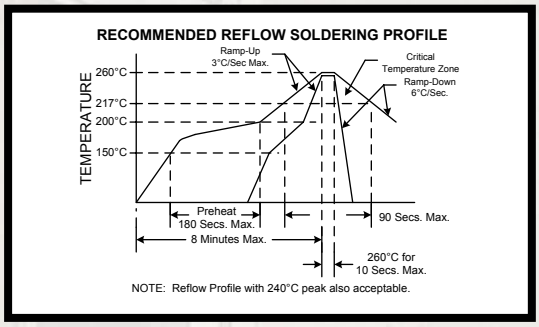
Custom Frequencies Available with NRE Fee

Part Number Information:

CCSO - 914X 3 - 315.000
#1 #2 #3 #4

#1 CRYSTEK SAW OSC.
#2 Model 914 with -40/85°C Temperature Range
#3 (3 = 3.3Volts) (Blank = 5 Volts)
#4 Frequency in MHz: 3 or 6 decimal places





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