



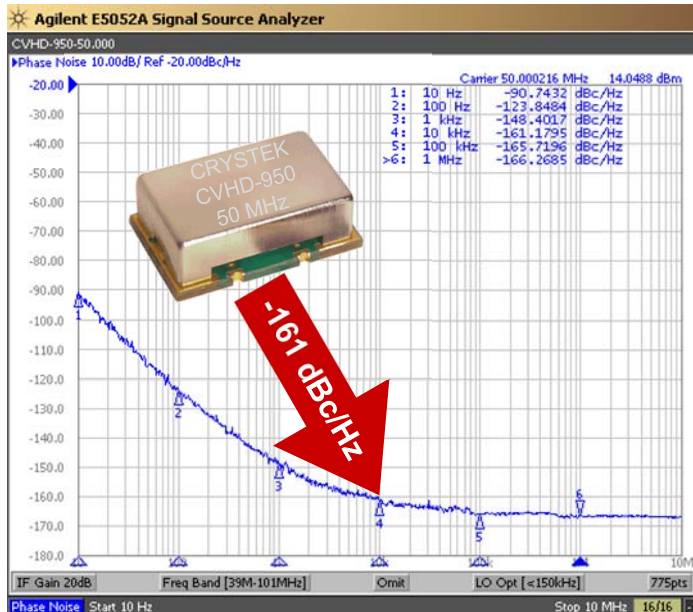
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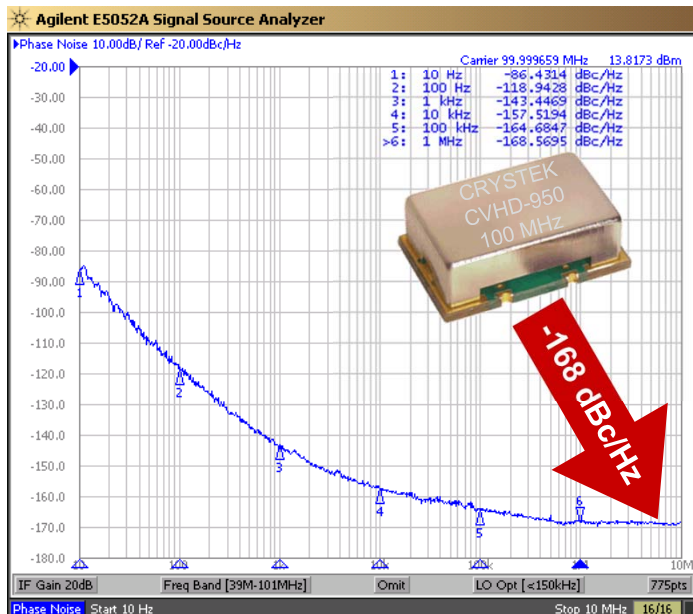
CVHD-950 VCXO Ultra-Low Phase Noise Oscillators

CVHD-950 Model
9×14 mm SMD, 3.3V, CMOS

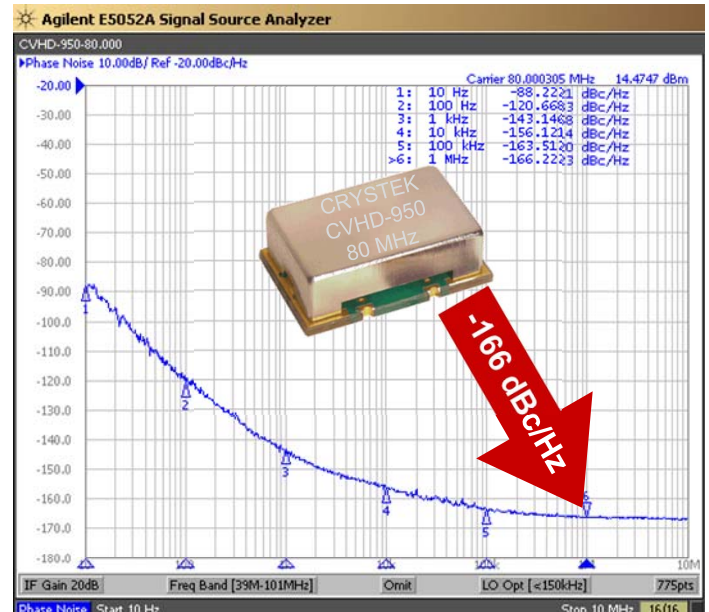
50 MHz HCMOS 3.3V



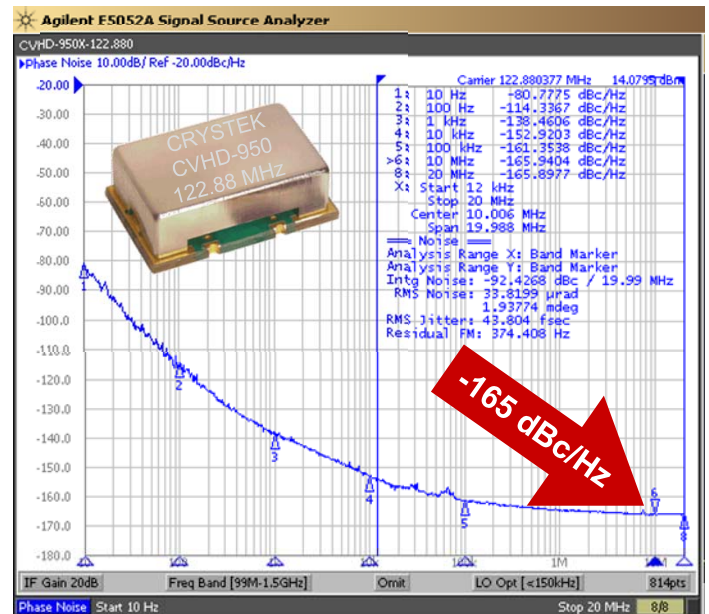
100 MHz HCMOS 3.3V



80 MHz HCMOS 3.3V



122.880 MHz HCMOS 3.3V



Model CVHD-950 is a 40 MHz to 130 MHz CMOS Voltage Controlled Crystal Oscillator. High Q crystal and 3rd overtone technology provides Ultra-Low Phase Noise and Low-Jitter performance with a CMOS output. Features include -168 dBc/Hz phase noise floor with 3.3Vdc input voltage, -40°C to +85°C operating temperature, and 9×14 mm SMT package. The oscillator has no sub-harmonics.

**Applications include High Definition TV, Avionics
Low Phase Signal Sources, and Test and Measurement.**

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CVHD-950 VCXO

Ultra-Low Phase Noise Oscillators



CVHD-950 Model

9x14 mm SMD, 3.3V, CMOS

Frequency Range:	40 MHz to 130 MHz
Temperature Range:	0°C to +70°C (standard)
(Option M)	-20°C to +70°C
(Option X)	-40°C to +85°C
Storage:	-45°C to 90°C
Input Voltage:	3.3V ±0.3V
Supply Pushing:	1.2ppm/V Typical
Input Current:	15mA Typical, 25mA Max
Output:	CMOS
Symmetry:	45/55% Max @ 50%Vdd
Rise/Fall Time:	3nsec Max @ 20% to 80% Vdd
Logic:	"0" = 10% Vdd Max "1" = 90% Vdd Min
Load:	15pF
Output Current:	±24mA Max
Input:	
Modulation Bandwidth:	>10kHz @ -3dB
Input Impedance:	51 kΩ
Control Voltage:	1.65V ±1.65V
Tuning Sensitivity:	+25ppm/V Typical
Frequency Pulling:	±20ppm APR Min (Inclusive of frequency stability, calibration, and aging.)
Linearity:	±5% Max
Phase Jitter (12kHz~20MHz):	40 fsec Typical @100MHz
Typical Phase Noise (100MHz):	
1kHz	-140 dBc/Hz
10kHz	-155 dBc/Hz
100kHz	-164 dBc/Hz
1MHz	-166 dBc/Hz
Phase Noise Floor:	-166 dBc/Hz Typical, -162 dBc/Hz Max
Sub-harmonics:	None
Aging:	<3ppm 1 st year, <1ppm thereafter

Part Number Example: CVHD-950X-100.000 = 3.3V, 45/55, -40°C to +85°C (±20ppmAPR), 100 MHz

Absolute Maximum Ratings		
Parameter	Rating	Unit
Input Supply Voltage	+6.0	V
Input Control Voltage	+10.0	V

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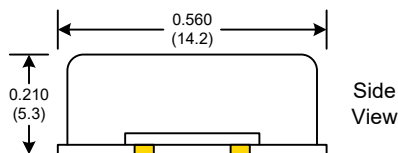
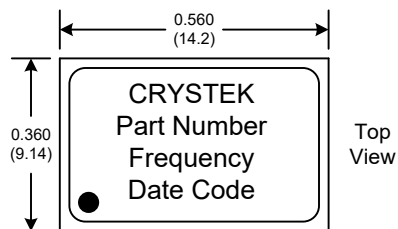
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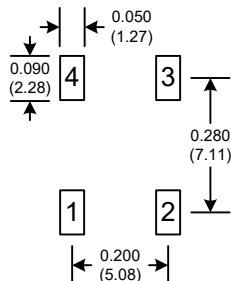
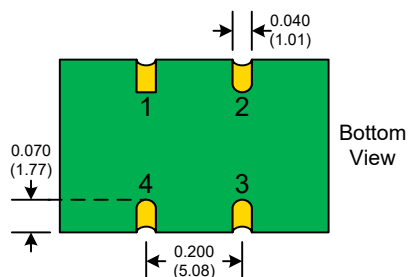
CVHD-950 VCXO

Ultra-Low Phase Noise Oscillators

CVHD-950 Model
9×14 mm SMD, 3.3V, CMOS



SUGGESTED PAD LAYOUT



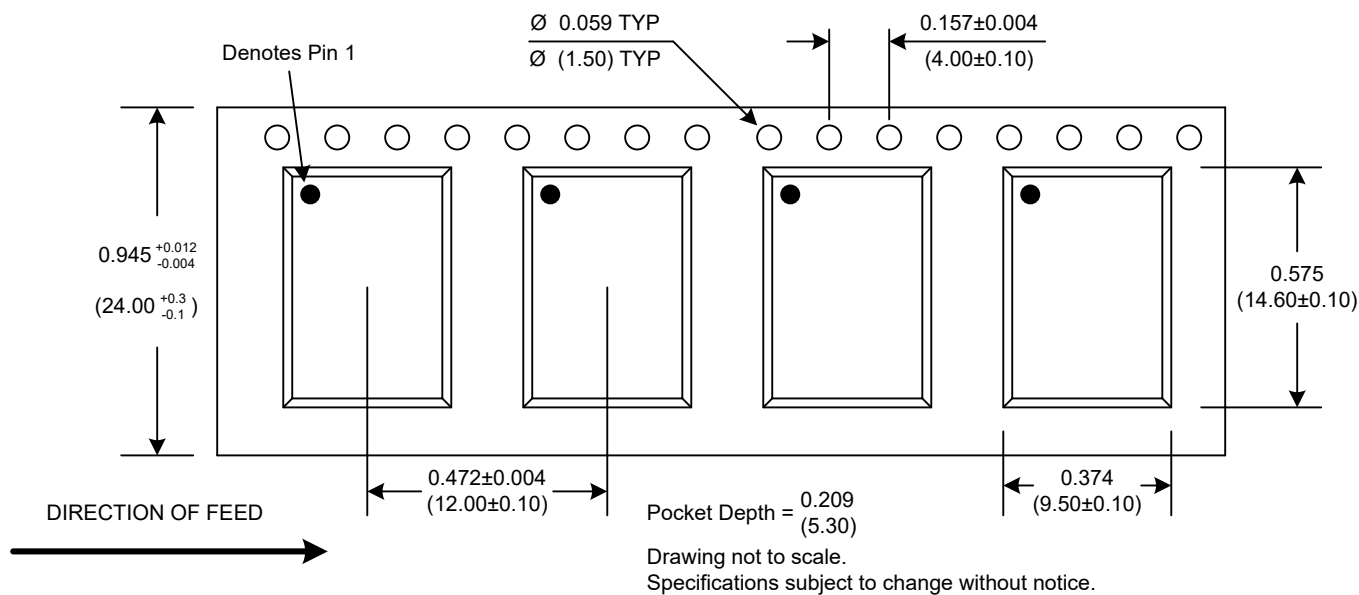
RECOMMENDED REFLOW SOLDERING PROFILE
900034 (See App Note listed on website)

<http://www.crystek.com/specification/reflow/900034.pdf>

Pad	Connection
1	Volt Control
2	GND
3	OUT
4	Vdd

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

TAPE AND REEL



Mechanical:

Shock: MIL-STD-883, Method 2002, Condition B
Solderability: MIL-STD-883, Method 2003
Vibration: MIL-STD-883, Method 2007, Condition A
Solvent Resistance: MIL-STD-202, Method 215
Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition I or J

Environmental:

Thermal Shock: MIL-STD-883, Method 1011, Condition A
Moisture Resistance: MIL-STD-883, Method 1004

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