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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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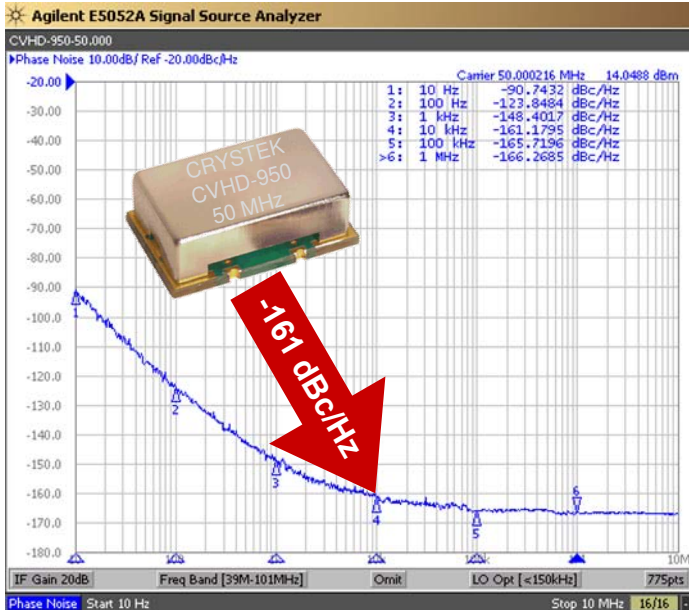


# CVHD-950 VCXO

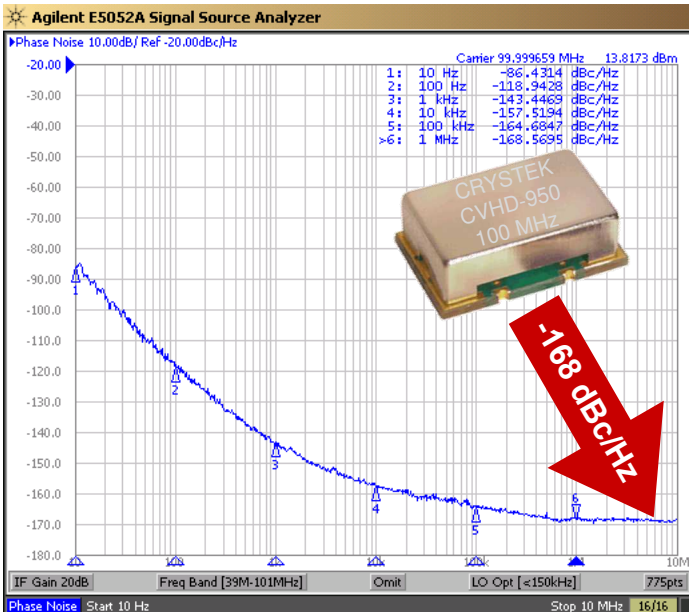
## Ultra-Low Phase Noise Oscillators

**CVHD-950 Model**  
9x14 mm SMD, 3.3V, CMOS

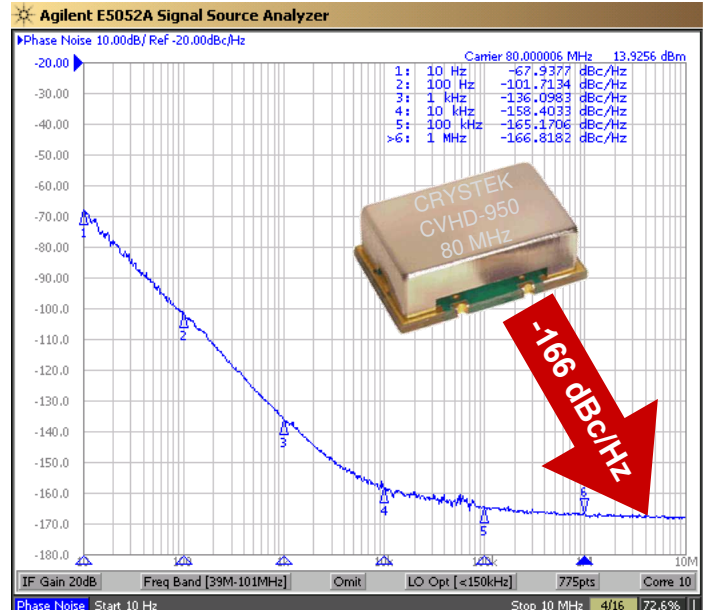
**50 MHz HCMOS 3.3V**



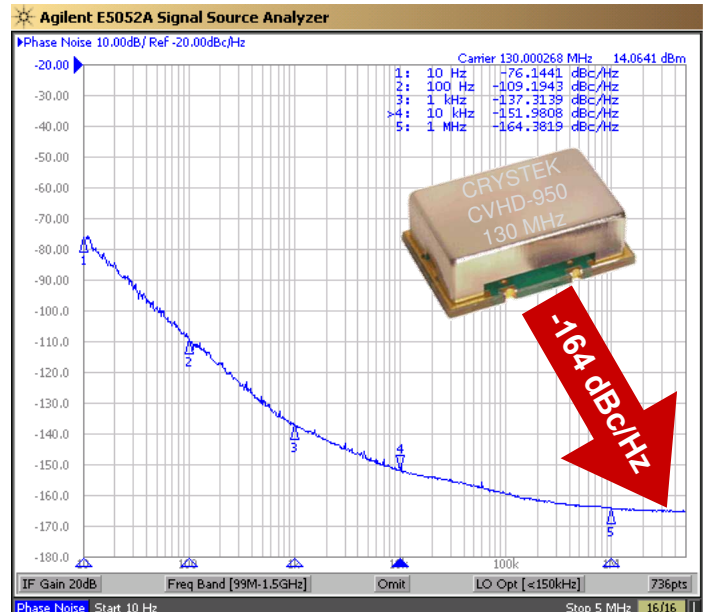
**100 MHz HCMOS 3.3V**



**80 MHz HCMOS 3.3V**



**130 MHz HCMOS 3.3V**



**Model CVHD-950 is a 50 MHz to 130 MHz CMOS Voltage Controlled Crystal Oscillator. High Q crystal and 3<sup>rd</sup> overtone technology provides Ultra-Low Phase Noise and Low-Jitter performance with a CMOS output. Features include -165 dBc/Hz phase noise floor with 3.3Vdc input voltage, -40°C to +85°C operating temperature, and 9x14 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:** 50 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  
**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  
**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:** ±10% Max  
**Phase Jitter (12kHz~80MHz):** 0.13psec Typical @ 100MHz  
**Phase Noise Floor:** -165dBc/Hz Typical, -160dBc/Hz Max  
**Sub-harmonics:** None  
**Aging:** <3ppm 1<sup>st</sup> year, <1ppm thereafter

**Typical Phase Noise:**

1kHz -135 dBc/Hz  
 10kHz -155 dBc/Hz  
 100kHz -164 dBc/Hz  
 1MHz -165 dBc/Hz

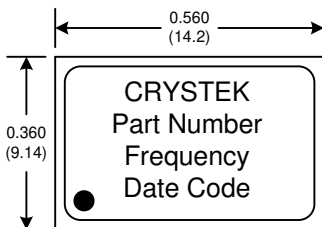
**Mechanical:**

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

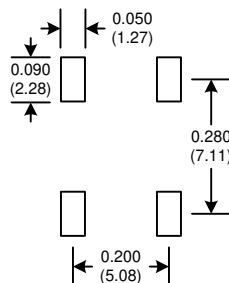
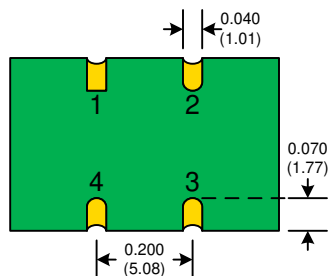
**Environmental:**

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

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

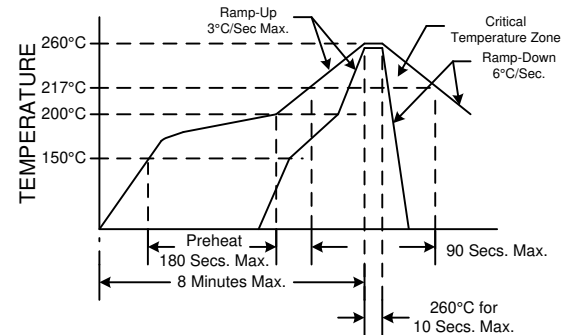


**SUGGESTED PAD LAYOUT**



| Pad | Connection  |
|-----|-------------|
| 1   | Volt Cntrl. |
| 2   | GND         |
| 3   | OUT         |
| 4   | Vdd         |

**RECOMMENDED REFLOW SOLDERING PROFILE**



NOTE: Reflow Profile with 240°C peak also acceptable.

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