

CVHD-957

Ultra-Low Phase Noise VCXO

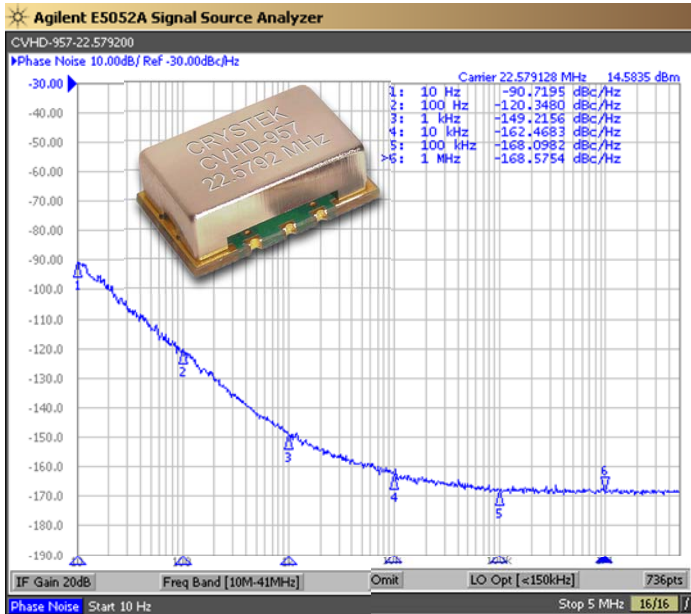
with Standby Mode



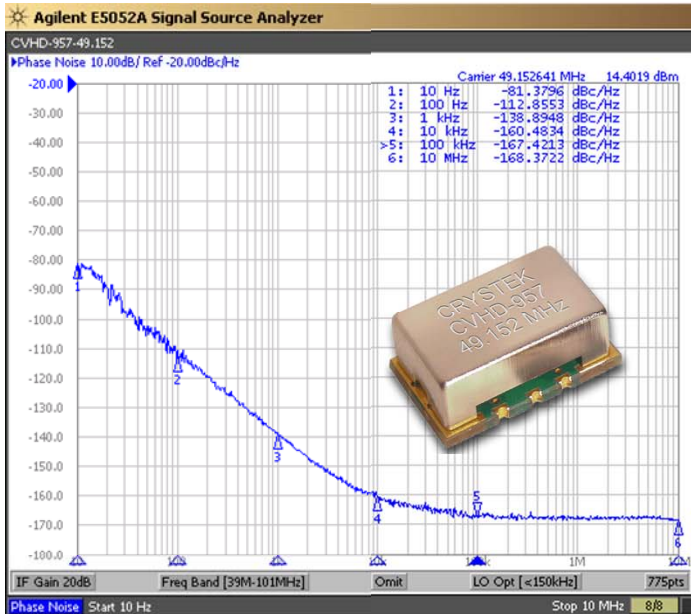
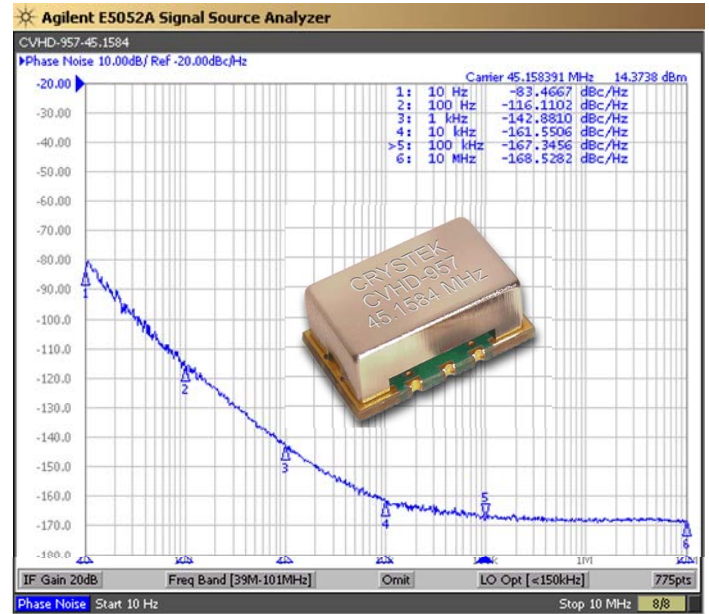
CVHD-957 Model
9x14 mm SMD, 3.3V, HCMOS

22.579200 MHz HCMOS 3.3V

45.158400 MHz HCMOS 3.3V



49.152 MHz HCMOS 3.3V



Hear The Difference!!

Crystek's Model CVHD-957 HCMOS VCXO family has been designed specifically for High Definition Audio (HD Audio). It features a typical low close-in phase noise of -90 dBc/Hz @ 10 Hz offset, and a noise floor of -168 dBc/Hz. With this extreme low phase noise performance, you will "Hear the Difference". It also features a "Standby Function", that is, when placed in disable mode, the internal oscillator is completely shut down in addition to its output buffer being placed in Tri-State. This family is housed in a 9x14 mm SMT package and operates with a +3.3V power supply.

Applications include: Digital Audio Broadcasting (DAB)
Professional CD audio equipment
DACs and ADCs for HD audio

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Ultra-Low Phase Noise VCXO with Standby Mode

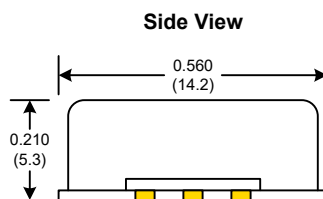
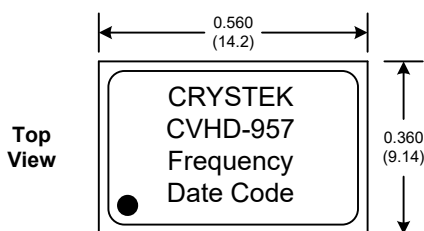


CVHD-957 Model
9x14 mm SMD, 3.3V, HCMOS

| | |
|---------------------------------------|--|
| Frequency Range: | 10 MHz to 50 MHz |
| Temperature Range: | 0°C to +70°C |
| (Option M) | -20°C to +70°C |
| (Option X) | -40°C to +85°C |
| Storage: | -45°C to 90°C |
| Input Voltage: | 3.3V ±5% |
| Input Current: | 15mA Typical, 25mA Max |
| Input Current (Disabled Mode): | 1.5mA Max |
| Input: Modulation Bandwidth: | >10 kHz @ -3 dB |
| Impedance: | 50 kOhm |
| Control Voltage: | 1.65V ±1.65V |
| Tuning Sensitivity: | +85 ppm/V Typical |
| Frequency Pulling: | ±100ppm Min, ±75ppm Min for 10 MHz variant |
| Output: | HCMOS |
| Symmetry: | 40/60% Max @ 50%Vcc |
| Rise/Fall Time: | 3ns Max @ 20% to 80% Vcc |
| Logic: | "0" = 10% Vcc Max "1" = 90% Vcc Min |
| Load: | 15pF |
| Output Current: | ±24mA Max |
| Disable Time: | 200ns Max |
| Start-up Time: | 1ms Typical, 2ms Max |
| Pin 1 Disable Current: | -350µA Max |
| Phase Noise: | -90 dBc/Hz at 10 Hz Typical for 22.5792 MHz and 24.576 MHz -80 dBc/Hz at 10 Hz Typical for 45.1584 MHz and 49.152 MHz |
| Phase Noise Floor: | -168 dBc/Hz Typical, -165 dBc/Hz Max |
| Sub-harmonics: | None |
| Aging: | <3ppm 1 st year, <1ppm thereafter |

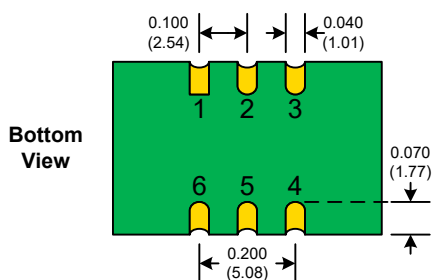
| | |
|-------------------------------|---|
| Mechanical: | |
| Shock: | MIL-STD-883, Method 2002, Condition B |
| Solderability: | MIL-STD-883, Method 2003 |
| Vibration: | MIL-STD-883, Method 2007, Condition A |
| Solvent Resistance: | MIL-STD-202, Method 215 |
| Resistance to Soldering Heat: | MIL-STD-202, Method 210, Condition I or J |
| Environmental: | |
| Thermal Shock: | MIL-STD-883, Method 1011, Condition A |
| Moisture Resistance: | MIL-STD-883, Method 1004 |

| |
|-----------------------|
| Developed Frequencies |
| 22.5792 MHz |
| 24.576 MHz |
| 45.1584 MHz |
| 49.152 MHz |

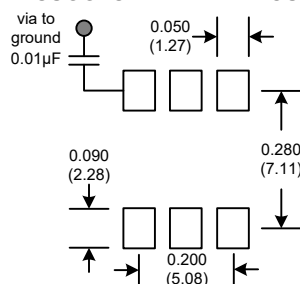


RECOMMENDED REFLOW SOLDERING PROFILE
900034 (See App Note listed on website)

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



SUGGESTED PAD LAYOUT



| Tri-State/Standby Function | |
|----------------------------|------------|
| Function pin 2 | Output pin |
| Open | Active |
| "1" level 0.7×Vcc Min | Active |
| "0" level 0.3×Vcc Max | High Z |

| PIN | Function |
|-----|--------------|
| 1 | Control Volt |
| 2 | E/D |
| 3 | GND |
| 4 | OUT |
| 5 | NC |
| 6 | Vcc |

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

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