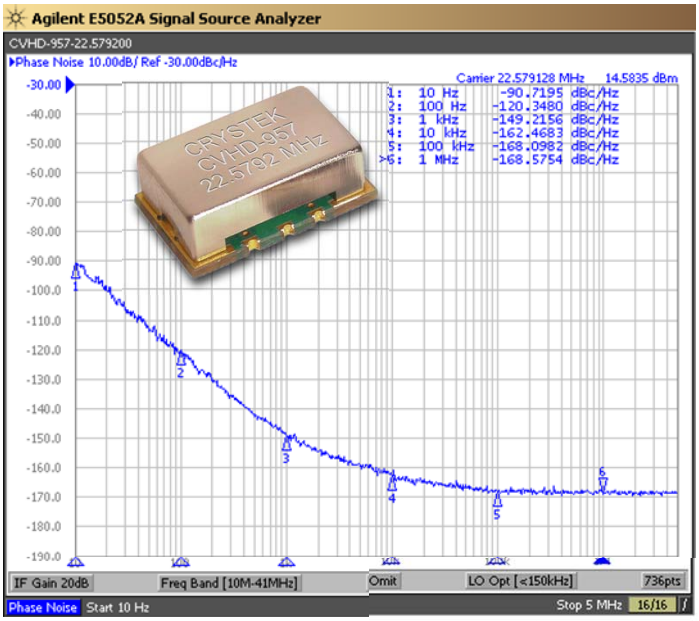
CRYSTEK CRYSTALS
A DIVISION OF CRYSTEK CORPORATION

CVHD-957
Ultra-Low Phase Noise VCXO with Standby Mode

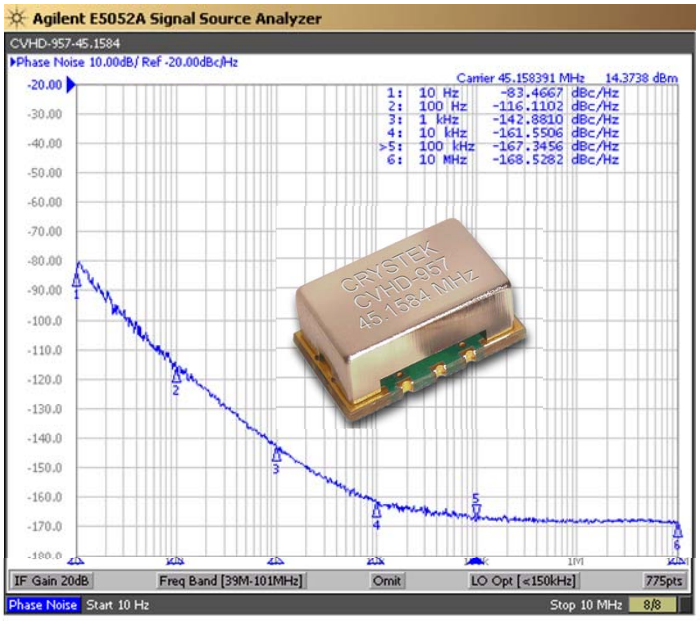
CVHD-957 Model
9×14 mm SMD, **3.3V, HCMOS**

RoHS Compliant

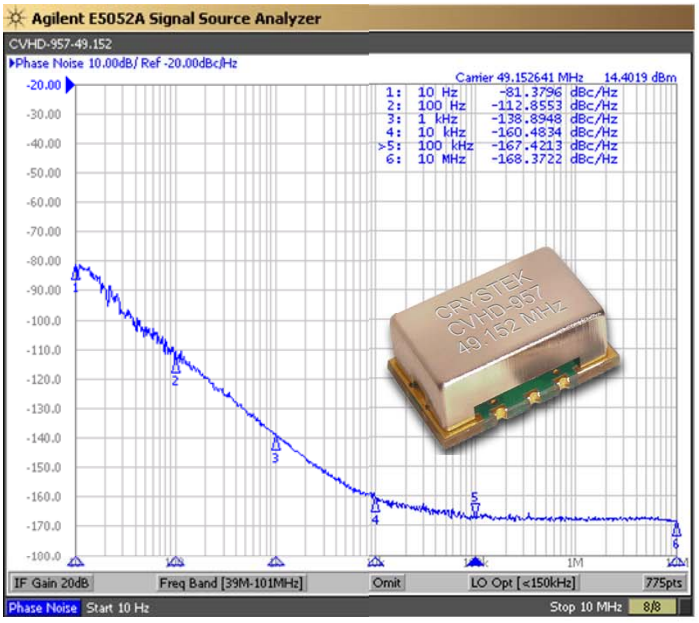
22.579200 MHz HCMOS 3.3V



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 9×14 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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Date: 16-Jan-2023
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RoHS Compliant

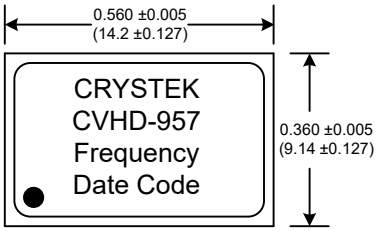
CVHD-957 Model
9×14 mm SMD, **3.3V, HCMOS**

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 1st year, <1ppm thereafter**

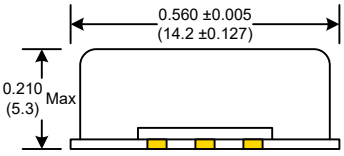
Mechanical:	
Shock:	MIL-STD-883, Method 2002, Condition B
Solderability:	MIL-STD-883, Method 2003
Vibration:	MIL-STD-883, Method 2007, Condition A
Solvent Resistance:	MIL-STD-202, Method 215
Resistance to Soldering Heat:	MIL-STD-202, Method 210, Condition I or J
Environmental:	
Thermal Shock:	MIL-STD-883,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

Top View

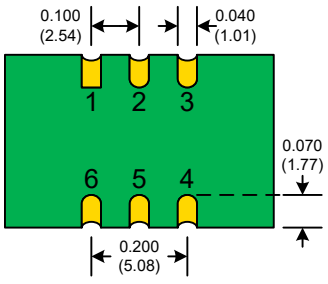


Side View

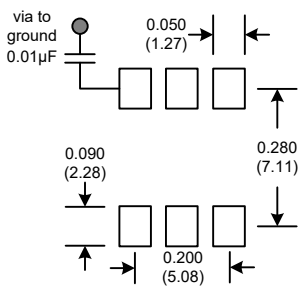


RECOMMENDED REFLOW SOLDERING PROFILE
900034 (See App Note listed on website)
http://www.crystek.com/specification/reflow/900034.pdf

Bottom View



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

Rev: M
Date: 16-Jan-2023

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