

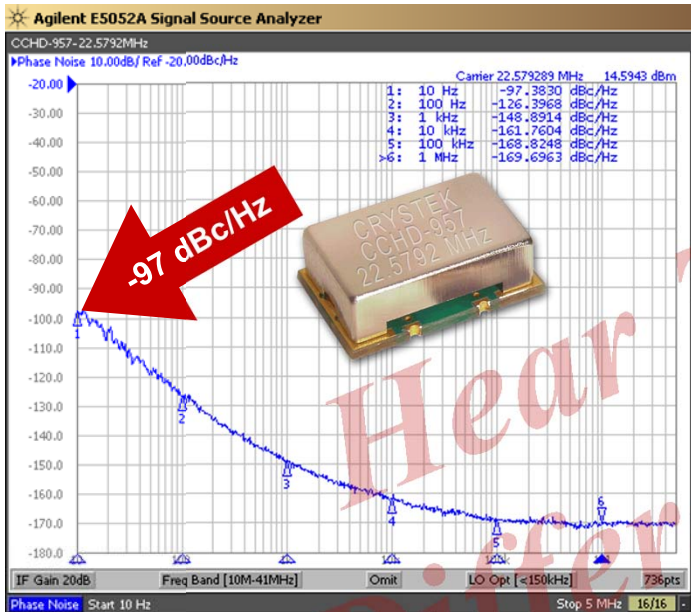
CCHD-957 FEMTO Clock

Ultra-Low Phase Noise Oscillator

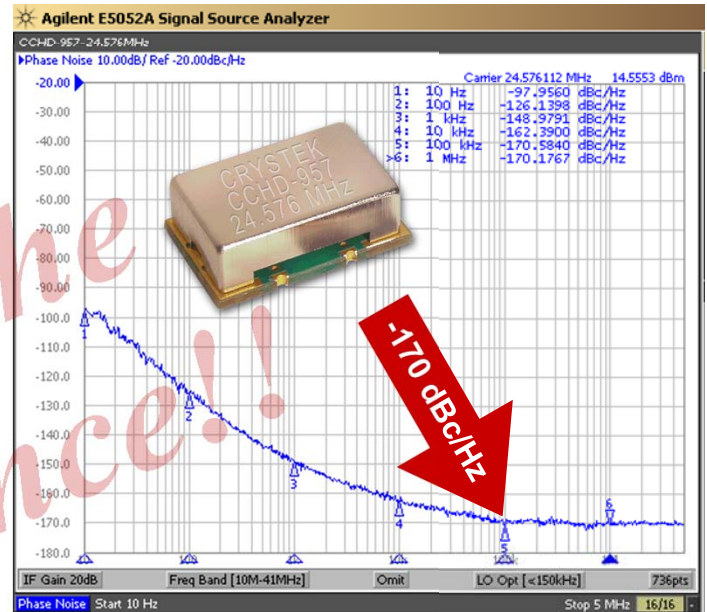


CCHD-957 Model
9×14 mm SMD, 3.3V, HCMOS

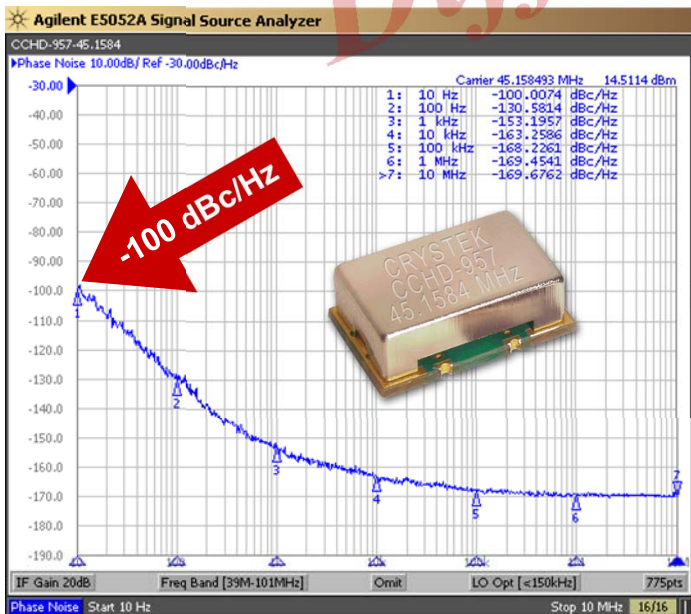
22.5792 MHz HCMOS 3.3V



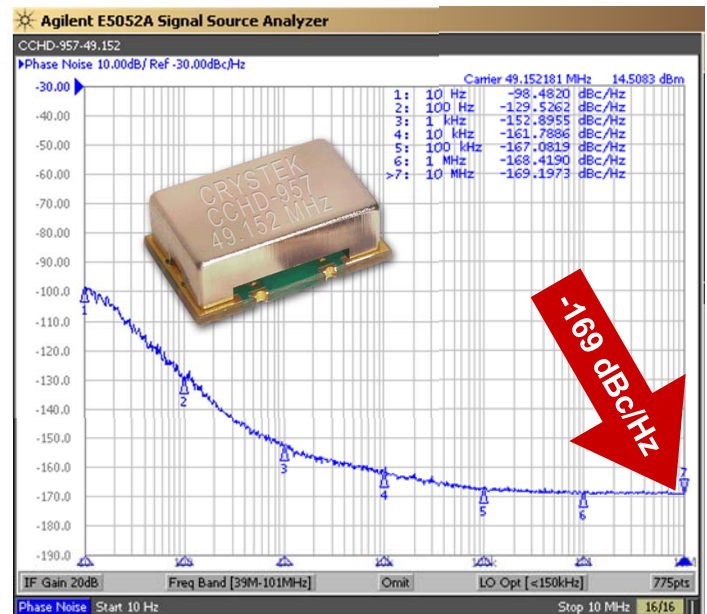
24.576 MHz HCMOS 3.3V



45.1584 MHz HCMOS 3.3V



49.152 MHz HCMOS 3.3V



Crystek's Model CCHD-957 HCMOS CLOCK oscillator family has been designed specifically for High Definition Audio (HD Audio). It features a typical low close-in phase noise of -100 dBc/Hz @ 10 Hz offset, and a noise floor of -169 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

Rev: M
Date: 25-Jan-2023
Page 1 of 2

CCHD-957 FEMTO Clock

Ultra-Low Phase Noise Oscillator

with Standby Mode



CCHD-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 ±0.3V
Input Current:	15mA Typical, 25mA Max
Input Current (Disabled Mode):	1.5mA Max
Output:	HCMOS
Symmetry:	45/55% 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:	-100 dBc/Hz Typical, -95 dBc/Hz Max at 10Hz offset
Phase Noise Floor:	-169 dBc/Hz Typical, -165 dBc/Hz Max
Sub-harmonics:	None
Aging:	<3ppm 1 st year, <1ppm thereafter
CCHD-957 Options:	
Temperature Range:	0°C to +70°C (±20ppm, ±25ppm, ±50ppm) -20°C to +70°C (±25ppm, ±50ppm) -40°C to +85°C (±25ppm, ±50ppm)

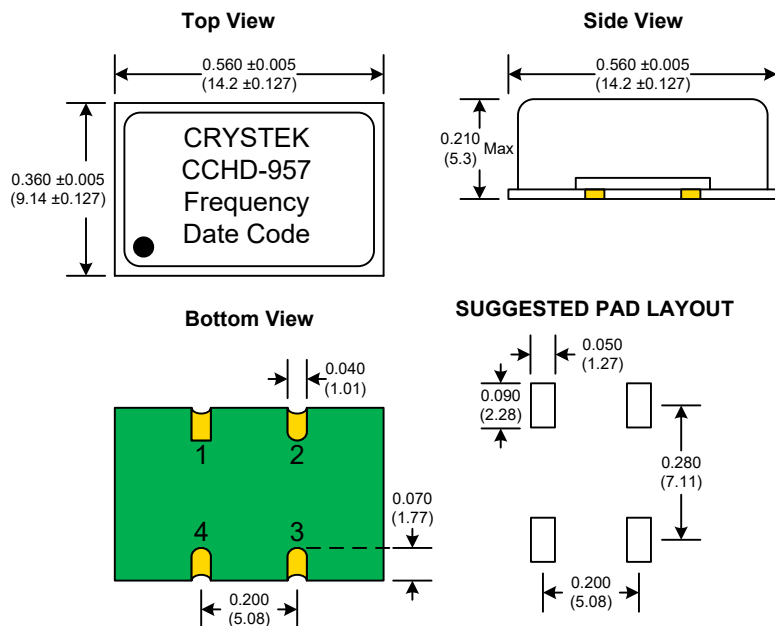
Part Number Example:

CCHD-957X-25-49.152 = 3.3V, 45/55, -40°C to +85°C (±25ppm), 49.152 MHz

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

10.000 MHz	24.576 MHz	40.000 MHz
20.000MHz	25.000 MHz	45.1584 MHz
22.5792 MHz	27.000 MHz	49.152 MHz
24.000 MHz	28.000 MHz	



RECOMMENDED REFLOW SOLDERING PROFILE

900034 (See App Note listed on website)

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

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

Pad	Connection
1	E/D
2	GND
3	OUT
4	Vcc

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

Crystek Corporation reserves the right to make changes to its products and/or information contained herein without notice.
No liability is assumed as a result of its use or application.

Rev: M

Date: 25-Jan-2023

Page 2 of 2