

Low Jitter, High Pull Voltage Controlled Crystal Oscillator

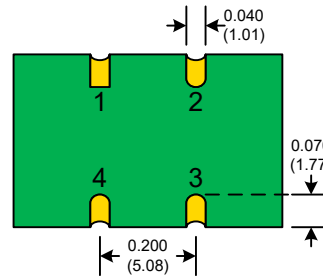
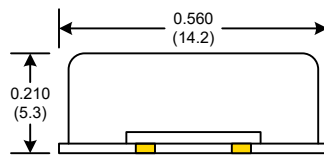
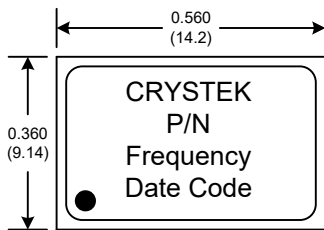
CVHD-960 Model

9x14 mm SMD, 3.3V, HCMOS

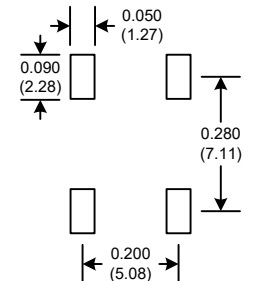
Frequency Range:	14 MHz to 49.152 MHz
Frequency Stability:	±30ppm Typical
Frequency Pulling:	(Blank) ±100ppm Min (Std)
	(Option A) ±150ppm Min
	(Option B) ±200ppm Min
Temperature Range:	0°C to 70°C
	(Option M) -20°C to 70°C
	(Option X) -40°C to 85°C
Storage:	-45°C to 90°C
Input Voltage:	3.3V ±0.3V
Control Voltage:	1.65V ±1.65V
Settability:	1.65V ±0.25V
Input Current:	25mA Typical, 40mA Max
Output:	HCMOS
	Symmetry: 45/55% Max @ 50% Vdd
	Rise/Fall Time: 3ns Max @ 20% to 80% Vdd
	Linearity: ±10% Max
	Logic: "0" = 10% Vdd Max
	"1" = 90% Vdd Min
	Load: 30pF
Jitter:	12kHz to 80MHz 0.5ps Typical, 1ps RMS Max
Phase Noise Floor:	-160 dBc/Hz Typical, -155 dBc/Hz Max Guaranteed
Sub-Harmonics:	None
Aging:	<3ppm 1 st year, <1ppm every year thereafter



Designed using fundamental UM-1 crystal to achieve Low Jitter and High Pull performance. Perfect for any application requiring high pull but extremely low jitter. Available in 5 Volt version, see CVHD-965 Model.

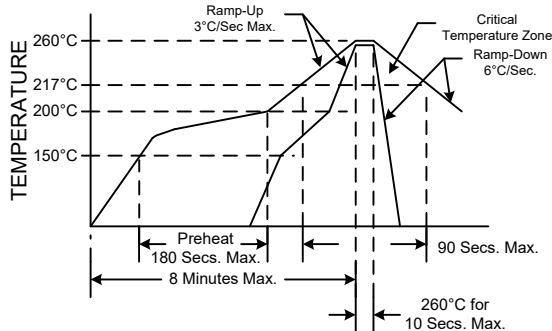


SUGGESTED PAD LAYOUT



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

RECOMMENDED REFLOW SOLDERING PROFILE



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

PIN	Function
1	Volt Cont.
2	GND
3	OUT
4	Vdd

Crystek Part Number Guide

CVHD - 960 - X - X - 49.152

#1 #2 #3 #4 #5

- #1 Crystek SMD HCMOS Osc.
- #2 Model 960 = 9x14mm smd 4pad 3.3V
- #3 Temp. Range: Blank = 0/70°C, M= -20/70°C, X= -40/85°C
- #4 Frequency Pulling: (see Table 1)
- #5 Frequency in MHz: 3 or 6 decimal places

Frequency Pulling

Blank (std)	± 100ppm
A	± 150ppm
B	± 200ppm

Table 1

Examples:

CVHD-960B-49.152 = 3.3V, 45/55, 0/70°C, 200ppm, 49.152 MHz
CVHD-960MA-49.152 = 3.3V, 45/55, -20/70°C, 150ppm, 49.152 MHz

Rev: L
Date: 14-Sep-2017
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Specifications subject to change without notice.