CRYSTEK CRYSTALS
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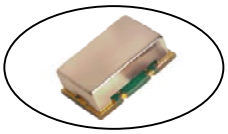


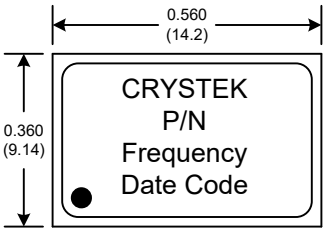
Low Jitter, High Pull Voltage Controlled Crystal Oscillator

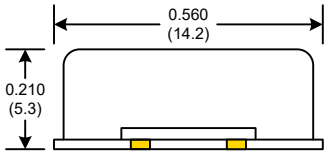
CVHD-960 Model
9×14 mm SMD, 3.3V, HCMOS

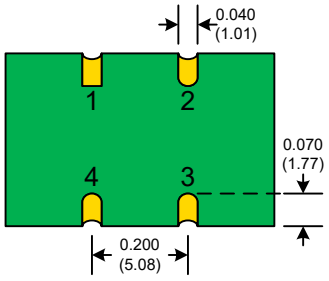
Frequency Range:		14 MHz to 49.152 MHz
Frequency Stability:		±30ppm Typical
Frequency Pulling:		
	(Blank)	±100ppm Min (Std)
	(Option A)	±150ppm Min
	(Option B)	±200ppm Min
Temperature Range:		0°C to 70°C
	(Option M)	-20°C to 70°C
	(Option X)	-40°C to 85°C
Storage:		-45°C to 90°C
Input Voltage:		3.3V ±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 1st year, <1ppm every year thereafter

RoHS Compliant

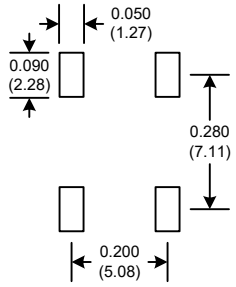
Designed using fundamental UM-1 crystal to achieve Low Jitter and High Pull performance. Perfect for any application requiring high pull but extremely low jitter. Available in 5 Volt version, see CVHD-965 Model.





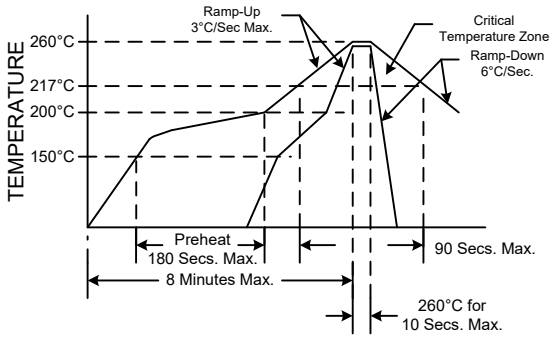


SUGGESTED PAD LAYOUT



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

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