

Low Jitter, High Pull Voltage Controlled Crystal Oscillator

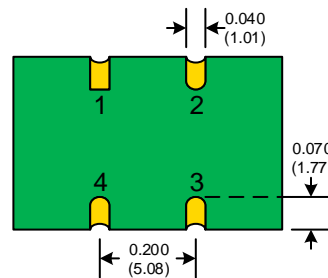
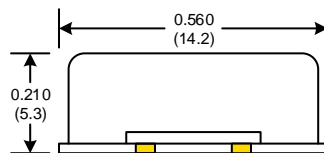
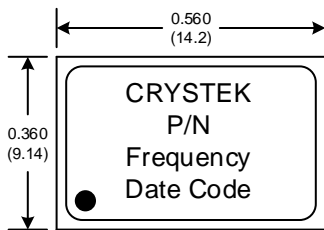
CVHD-960 Model

9x14 mm SMD, 3.3V, HCMOS

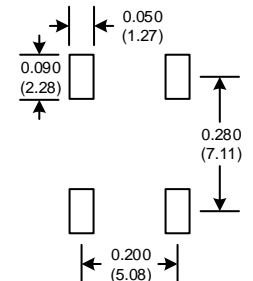
| | |
|-----------------------------|---|
| Frequency Range: | 14 MHz to 49.152 MHz |
| Frequency Stability: | ±30ppm Typical |
| Frequency Pulling: | (Blank) ±100ppm Min (Std) |
| | (Option A) ±150ppm Min |
| | (Option B) ±200ppm Min |
| Temperature Range: | 0°C to 70°C |
| | (Option M) -20°C to 70°C |
| | (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 |



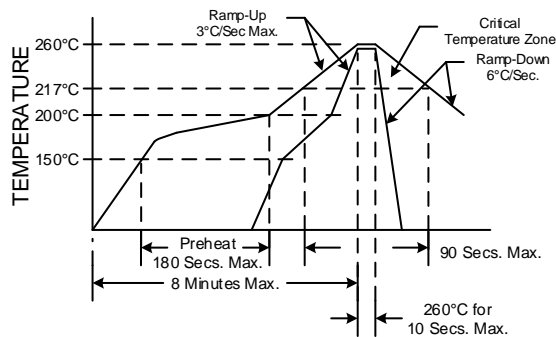
Designed using fundamental UM-1 crystal to achieve Low Jitter and High Pull performance. Perfect for any application requiring high pull but extremely low jitter. Available in 5 Volt version, see CVHD-965 Model.



SUGGESTED PAD LAYOUT



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: K
Date: 17-Aug-2016
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Specifications subject to change without notice.