



**Frequency Range:** 10MHz to 49.152MHz

**Temperature Range:** 0°C to 70°C  
(Option X) -40°C to 85°C

**Storage:** -55°C to 120°C

**Input Voltage:** 3.3V ± 0.3V  
**Control Voltage:** 1.65V ± 1.65V  
**Settability At Nominal:** 1.65V ± 0.25V  
**Input Current:** 25mA Max

**Output:** CMOS  
Symmetry: 47.5/52.5 Typical, 45/55% Max  
Rise/Fall Time: 5ns Max @ 20% to 80% Vcc  
Pullability APR: ±50ppm Min.  
Linearity: ± 10% Max  
Load: 30pF Max  
Logic "1" Level: 90% Vdd Max  
Logic "0" Level: 10% Vdd Min.  
Start-up time: 2ms Typ., 5ms Max

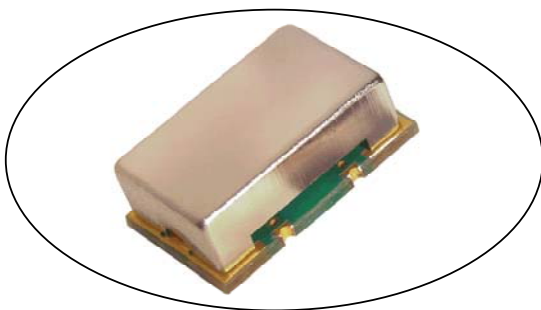
**Modulation BW:** >10KHz @ -3dB  
**Sub-harmonics:** none

**Period Jitter:** (20,000 periods) <5ps RMS (1-sigma) Max  
**Phase Jitter:** 12KHz~20MHz <1ps RMS (1-sigma) Max,  
50KHz~80MHz <1ps RMS (1-sigma) Max,

**Phase Noise Typical:**

10Hz	-80 dBc/Hz
100Hz	-110 dBc/Hz
1KHz	-140 dBc/Hz
10KHz	-152 dBc/Hz
100KHz	-155 dBc/Hz

**Aging:** <3ppm 1st/yr, <1ppm every year thereafter



#### Applications:

Broadband Networks  
SONET/SDH/DWD  
ATM  
Network/switch  
Telecom

Designed using FR5 PCB & Fundamental AT crystal technology to provide a Low Noise, Low Jitter Voltage Controlled Crystal Oscillator solution at a competitive price.

**CVHD-930 Model**  
**9X14 mm SMD, 3.3V, CMOS**

**High Performance VCXO**

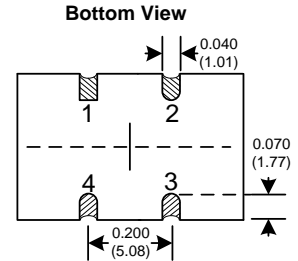
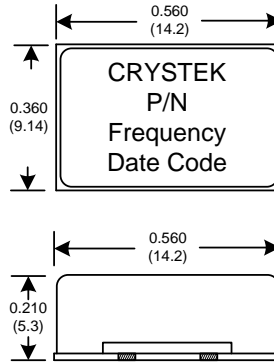
**Lead Free  
 RoHS  
 Compliant**

**Crystek Part Number Guide**

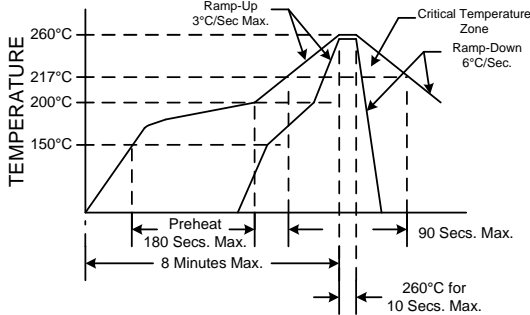
CVHD-930 X-49.152  
 #1 #2 #3 #4

#1 Crystek 9x14 SMD CMOS VCXO  
 #2 Model 930 = High Performance 3.3V  
 #3 Temp. Range: Blank = 0/70°C, X=-40/85°C  
 #4 Frequency in MHz: 3 or 6 decimal places

Example:  
 CVHD-930X-49.152 = 3.3V, -40/85°C, 49.152 MHz



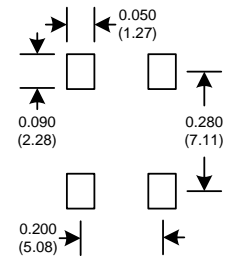
**RECOMMENDED REFLOW SOLDERING PROFILE**



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

Pad	Connection
1	Volt Cont.
2	GND
3	OUT
4	Vdd

**SUGGESTED PAD LAYOUT**



**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

**Packaging:**

- Tape/Reel: 100ea, 250ea, 500ea 24mm Tape

Specifications subject to change without notice.

TD-040101 Rev. D

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