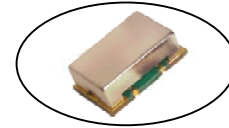


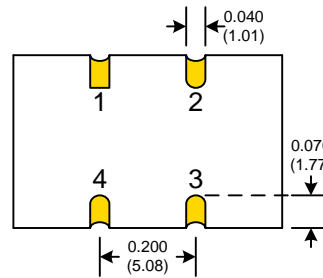
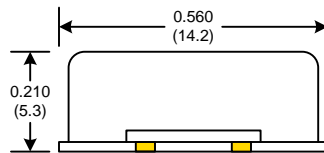
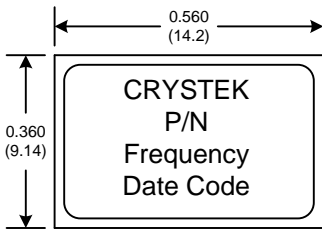
# Low Jitter, High Pull Voltage Controlled Crystal Oscillator

## CVHD-965 Model 9x14 mm SMD, 5V, CMOS

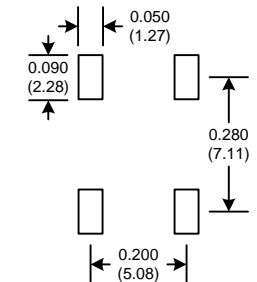


<b>Frequency Range:</b>	14MHz to 49.152MHz
<b>Frequency Stability:</b>	±30ppm
<b>Frequency Pulling:</b>	
(Blank)	±100ppm Min (Std)
(Option A)	±150ppm Min
(Option B)	±200ppm Min
<b>Temperature Range:</b>	0°C to 70°C
(Option M)	-20°C to 70°C
(Option X)	-40°C to 85°C
<b>Storage:</b>	-45°C to 90°C
<b>Input Voltage:</b>	5V ±0.5V
<b>Control Voltage:</b>	2.5V ±2.0V
<b>Input Current:</b>	30mA Typ, 50mA Max
<b>Output:</b>	CMOS
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
<b>Jitter:</b>	12kHz to 80MHz 0.5psec Typ., 1psec RMS Max
<b>Phase Noise Floor:</b>	-145dBc/hz Typ., -140dBc/hz Max Guaranteed
<b>Sub-Harmonics:</b>	None
<b>Aging:</b>	<3ppm 1st/yr, <1ppm every year thereafter

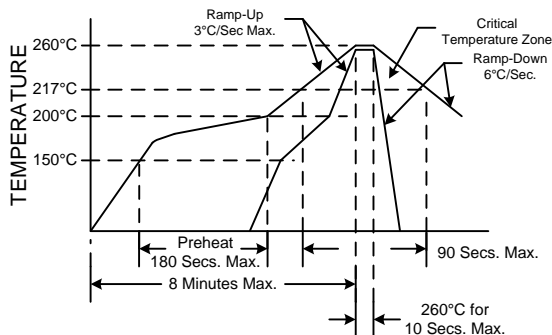
Designed using fundamental UM-1 crystal to achieve Low Jitter and High Pull performance. Perfect for any application requiring high pull but extremely low jitter. Available in 3.3 Volt version, see CVHD-960 Model.



### 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 - 965 - X - X - 16.384

#1 #2 #3 #4 #5

#1 Crystek SMD CMOS Osc.  
#2 Model 965 = 9x14mm smd 4pad 5.0V  
#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-965B-49.152 = 5.0V, 45/55, 0/70°C, 200ppm, 16.384 MHz  
CVHD-965MA-49.152 = 5.0V, 45/55, -20/70°C, 150ppm, 16.384 MHz

Specifications subject to change without notice.

TD-030901 Rev. C