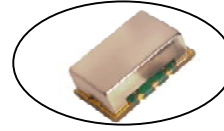


# Ultra-Low Phase Noise Voltage Controlled Crystal Oscillator

## Part Number CVHD-952 9x14 mm SMD, 3.3V, HCMOS

|                               |   |
|-------------------------------|---|
| <b>Frequency Range:</b>       | 131.000 MHz to 200.000 MHz  |
| <b>Frequency Pulling:</b>     | ±20 ppm APR Min   |
| <b>Temperature Range:</b>     | 0°C to 70°C (standard)  |
| <b>(Option X):</b>            | -40°C to 85°C   |
| <b>Storage:</b>               | -45°C to 90°C   |
| <b>Input Voltage:</b>         | 3.3 V ±0.3 V  |
| <b>Control Voltage:</b>       | 1.65 V ±1.65 V  |
| <b>Input Current:</b>         | 25 mA Typical, 35 mA Max  |
| <b>Output:</b>                | HCMOS   |
| <b>Symmetry:</b>              | 45/55% Max @ 50% Vdd  |
| <b>Rise/Fall Time:</b>        | 2ns Max @ 20% to 80% Vdd  |
| <b>Linearity:</b>             | ±10% Max  |
| <b>Logic:</b>                 | "0" = 10% Vdd Max<br>"1" = 90% Vdd Min  |
| <b>Load:</b>                  | 15 pF   |
| <b>Output current:</b>        | ±24 mA Max  |
| <b>Disable Time:</b>          | 200 ns Max  |
| <b>Enable Time:</b>           | 200 ns Max  |
| <b>Jitter:</b>                | 12 kHz to 80 MHz<br>0.5 psec Typical, 1 psec RMS Max  |
| <b>Phase Noise (Typical):</b> | 1 Hz: -40 dBc/Hz<br>10 Hz: -70 dBc/Hz<br>100 Hz: -100 dBc/Hz<br>1 kHz: -130 dBc/Hz<br>10 kHz: -148 dBc/Hz<br>100 kHz: -150 dBc/Hz |
| <b>Sub-Harmonic @ Fo/2:</b>   | -35 dBc Max   |
| <b>Aging:</b>                 | <3 ppm 1 <sup>st</sup> year, <1 ppm every year thereafter   |



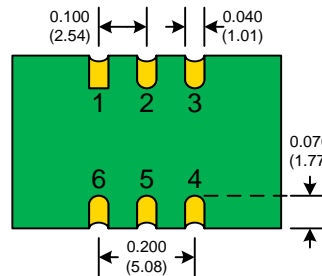
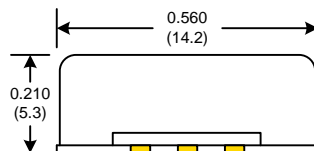
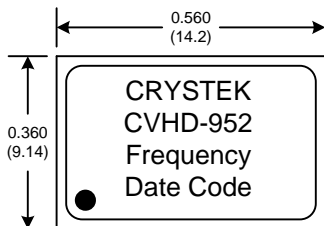
Available Frequencies (MHz):

148.351600 148.500

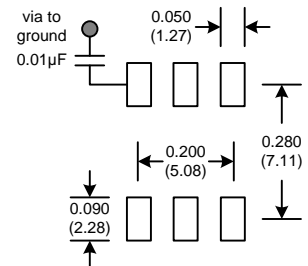
Applications:

HD Video Broadcast Equipment

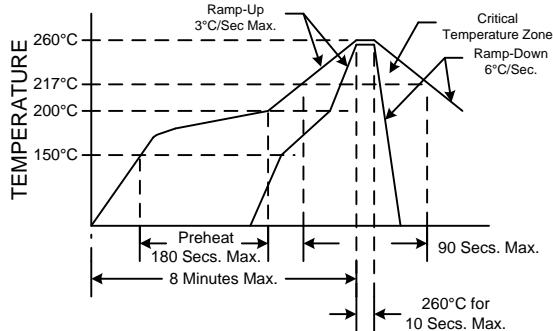
| PIN | Function     |
|-----|--------------|
| 1   | Control Volt |
| 2   | E/D          |
| 3   | GND          |
| 4   | OUT          |
| 5   | No Connect   |
| 6   | Vdd          |



### SUGGESTED PAD LAYOUT



### RECOMMENDED REFLOW SOLDERING PROFILE



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

### 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              |

Rev: C

Date: 19-Sep-2013

Page 1 of 1

\*\* APR= Absolute Pulling Range inclusive of all conditions