Crystek’s Model CVHD-957 HCMOS VCXO family has been designed specifically for High Definition Audio (HD Audio). It features a typical low close-in phase noise of -90 dBc/Hz @ 10 Hz offset, and a noise floor of -168 dBc/Hz. With this extreme low phase noise performance, you will “Hear the Difference”. It also features a “Standby Function”, that is, when placed in disable mode, the internal oscillator is completely shut down in addition to its output buffer being placed in Tri-State. This family is housed in a 9×14 mm SMT package and operates with a +3.3V power supply.

Applications include:
- Digital Audio Broadcasting (DAB)
- Professional CD audio equipment
- DACs and ADCs for HD audio

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Rev: K  
Date: 15-Jan-2019  
Page 1 of 2
CVHD-957
Ultra-Low Phase Noise VCXO
with Standby Mode

Specifications:
- 9×14 mm SMD, 3.3V, HCMOS
- Frequency Range: 10 MHz to 50 MHz
- 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 ±5%
- Input Current: 15mA Typical, 25mA Max
- Input Current (Disabled Mode): 1.5mA Max
- Modulation Bandwidth: >10 kHz @ -3 dB
- Impedance: 50 kOhm
- Control Voltage: 1.65V ±1.65V
- Tuning Sensitivity: +85 ppm/V Typical
- Frequency Pulling: ±100ppm Min
- Output: HCMOS
  - Symmetry: 40/60% Max @ 50%Vcc
  - Rise/Fall Time: 3ns Max @ 20% to 80% Vcc
  - Logic: “0” = 10% Vcc Max
    “1” = 90% Vcc Min
  - Load: 15pF
  - Output Current: ±24mA Max
- Disable Time: 200ns Max
- Start-up Time: 1ms Typical, 2ms Max
- Pin 1 Disable Current: -350µA Max
- Phase Noise: -90 dBc/Hz Typical, -85 dBc/Hz Max at 10Hz offset
- Phase Noise Floor: -168 dBc/Hz Typical, -165 dBc/Hz Max
- Aging: <3ppm 1st year, <1ppm thereafter

Environmental:
- Vibration: MIL-STD-883, Method 2007, Condition A
- Moisture Resistance: MIL-STD-202, Method 210, Condition I or J

Mechanical:
- Thermal Shock: MIL-STD-883, Method 1011, Condition A

Developed Frequencies:
- 22.5792 MHz
- 24.576 MHz
- 45.1584 MHz
- 49.152 MHz

Recommended Reflow Soldering Profile:
900034 (See App Note listed on website)

Suggested Pad Layout:

PAD FINISH: Immersion Gold (ENIG); 5 micro inches maximum

Specifications subject to change without notice.