Model CVHD-950 is a 40 MHz to 130 MHz CMOS Voltage Controlled Crystal Oscillator. High Q crystal and 3rd overtone technology provides Ultra-Low Phase Noise and Low-Jitter performance with a CMOS output. Features include -168 dBc/Hz phase noise floor with 3.3Vdc input voltage, -40°C to +85°C operating temperature, and 9×14 mm SMT package. The oscillator has no sub-harmonics.

Applications include High Definition TV, Avionics Low Phase Signal Sources, and Test and Measurement.
CVHD-950 Model
9×14 mm SMD, 3.3V, CMOS

Frequency Range: 40 MHz to 130 MHz
Temperature Range: 0°C to +70°C (standard)
                  -20°C to +70°C (Option M)
                  -40°C to +85°C (Option X)
Storage: -45°C to 90°C
Input Voltage: 3.3V ±0.3V
Supply Pushing: 1.2ppm/V Typical
Input Current: 15mA Typical, 25mA Max
Output: CMOS
        Symmetry: 45/55% Max @ 50%Vdd
        Rise/Fall Time: 3nsec Max @ 20% to 80% Vdd
        Logic: “0” = 10% Vdd Max
                  “1” = 90% Vdd Min
        Load: 15pF
        Output Current: ±24mA Max
Input:
        Modulation Bandwidth: >10kHz @ -3dB
        Input Impedance: 51 kΩ
        Control Voltage: 1.65V ±1.65V
        Tuning Sensitivity: +25ppm/V Typical
Frequency Pulling: ±20ppm APR Min
                  (Inclusive of frequency stability, calibration, and aging.)
Linearity: ±5% Max
Phase Jitter (12kHz~20MHz): 40 fsec Typical @100MHz
Typical Phase Noise (100MHz):
  1kHz -140 dBc/Hz
  10kHz -155 dBc/Hz
  100kHz -164 dBc/Hz
  1MHz -166 dBc/Hz
Phase Noise Floor: -166 dBc/Hz Typical, -162 dBc/Hz Max
Sub-harmonics: None
Aging: <3ppm 1st year, <1ppm thereafter
Weight: 1.2 g

Part Number Example: CVHD-950X-100.000 = 3.3V, 45/55, -40°C to +85°C (±20ppmAPR), 100 MHz

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rating</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Supply Voltage</td>
<td>+6.0</td>
<td>V</td>
</tr>
<tr>
<td>Input Control Voltage</td>
<td>+10.0</td>
<td>V</td>
</tr>
</tbody>
</table>
CVHD-950 VCXO
Ultra-Low Phase Noise
Oscillators

9×14 mm SMD, 3.3V, CMOS

CRYSTEK
Part Number
Frequency
Date Code

Top View

Bottom View

SUGGESTED PAD LAYOUT

1 2
3 4

Denotes Pin 1

Tape and Reel

Pocket Depth = 0.209 (5.30)

Drawing not to scale.

TAPE AND REEL

CRYSTEK
Part Number
Frequency
Date Code

Bottom View

Direction of Feed

Mechanical:
- Vibration: MIL-STD-883, Method 2007, Condition A
- Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition I or J

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

Rev: Z
Date: 26-Aug-2019
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