Ultra-Low Phase Noise
Voltage Controlled
Crystal Oscillator

Part Number CVPD-952
9×14 mm SMD, 3.3V, LVPECL

Frequency Range: 131.000 MHz to 200.000 MHz
Frequency Pulling: ±20 ppm APR Min*
Temperature Range: 0°C to 70°C (standard)
                  -40°C to 85°C (Option X)
Storage: -45°C to 90°C
Input Voltage: 3.3 V ±0.3 V
Control Voltage: 1.65 V ±1.65 V
Input Current: 92 mA Typical, 100 mA Max
Output: LVPECL

Symmetry: 45/55% Max @ zero crossing point
Rise/Fall Time: 2ns Max (20% to 80%)
Linearity: ±10% Max
Load: Terminated to Vcc -2V into 50 ohms
Logic: "0" = 1.43V Min, 1.68V Max
        "1" = 2.05V Min, 2.48V Max
Disable Time: 200 μs Max
Enable Time: 200 μs Max

Phase Jitter (RMS): 12 kHz to 20 MHz
50 fs Typical for 153.6 variant
Phase Noise (Typical): 1 Hz:
10 Hz: -40 dBc/Hz
100 Hz: -70 dBc/Hz
1 kHz: -100 dBc/Hz
10 kHz: -130 dBc/Hz
100 kHz: -148 dBc/Hz

Sub-Harmonic @ Fo/2:
-35 dBc Max
Aging:
<3 ppm 1st year, <1 ppm every year thereafter

Specifications subject to change without notice.

* APR= Absolute Pulling Range inclusive of all conditions

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Crystek Part Number Guide

CVPD-952 X-148.500

#1 #2 #3 #4

#1 Crystek 9×14 SMD LVPECL VCXO
#2 Model 952 = Ultra Low Noise 3.3V
#3 Temp. Range: Blank = 0/70°C, X = -40/85°C
#4 Frequency in MHz: 3 or 6 decimal places

Example: CVPD-952X-153.600 = 3.3V, -40/85°C, 153.600 MHz

Applications:
HD Video Broadcast Equipment

Available Frequencies MHz
148.351600
148.500
153.600

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

Suggested Pad Layout

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

Pin Function
1 Control Volt
2 E/D
3 GND
4 OUT
5 COUT
6 Vdd

Tri-State Function

<table>
<thead>
<tr>
<th>Tri-State Pin</th>
<th>Output pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Active</td>
</tr>
<tr>
<td>&quot;1&quot; level 2.0V Min</td>
<td>Active</td>
</tr>
<tr>
<td>&quot;0&quot; level 0.8V Max</td>
<td>High Z</td>
</tr>
</tbody>
</table>

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
Moisture Resistance: MIL-STD-883, Method 1004

Packaging:
Tape/Reel: 100ea, 250ea, 500ea | 24mm Tape