



**CCLD-034 Model**  
5x7 mm SMD, 3.3V, LVDS



**Model CCLD-034 is a 162.000 MHz to 312.500 MHz LVDS Clock Oscillator operating at 3.3 Volts. The oscillator utilizes a High Q Third Overtone crystal design providing very low Jitter and Phase Noise. No Sub-Harmonics are present in the Output Signal.**



**5x7mm SMD**

**Applications:**

Digital Video  
SONET/SDH/DWDM  
Storage Area Networks  
Broadband Access  
Ethernet, Gigabit Ethernet

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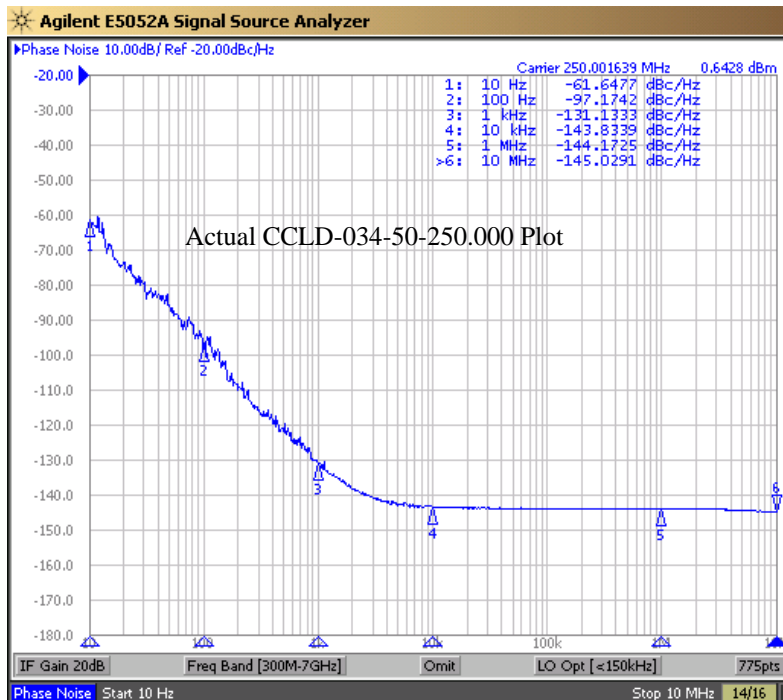




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<b>Frequency Range:</b>	<b>162.000 MHz to 312.500 MHz</b>
<b>Frequency Stability Options(ppm):</b>	<b>±20, ±25, ±50, ±100</b>
<b>Temperature Range:</b>	<b>(standard) 0°C to +70°C</b>
<b>(Option M)</b>	<b>-20°C to +70°C</b>
<b>(Option X)</b>	<b>-40°C to +85°C</b>
<b>Storage:</b>	<b>-45°C to 90°C</b>
<b>Input Voltage:</b>	<b>3.3V ±0.3V</b>
<b>Input Current:</b>	<b>45mA Typ., 66mA Max</b>
<b>Output:</b>	<b>Differential LVDS</b>
<b>Symmetry:</b>	<b>45/55% Max @ 50% Vdd</b>
<b>Rise/Fall Time:</b>	<b>1nsec Max @ 20% to 80% Vdd</b>
<b>Load:</b>	<b>100 Ohms Connected between OUT and COUT</b>
<b>Logic:</b>	
<b>Output Voltage Levels</b>	<b>“0”=0.90 Min., 1.10 Typ.</b>
	<b>“1”=1.43 Typ., 1.60 Max</b>
<b>Differential Output Voltage:</b>	<b>247mV Min., 454mV Max</b>
<b>Disable Time:</b>	<b>200nSec Max</b>
<b>Enable Time:</b>	<b>2mSec Max</b>
<b>Phase Jitter: 12kHz~80MHz</b>	<b>0.5psec Typ., 1psec RMS Max</b>
<b>Phase Noise: (See Plot Below)</b>	
<b>Sub-harmonics:</b>	<b>None</b>
<b>Aging:</b>	<b>&lt;3ppm 1<sup>st</sup>/yr, &lt;1ppm every year thereafter</b>



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**Crystek Part Number Guide**

**CCLD - 034 X - 50 - 311.040**

#1 #2 #3 #4 #5

#1 Crystek LVDS Osc.  
#2 Model 034  
#3 Temp Range: Blank = 0/70°C, M = -20/70°C, X = -40/85°C  
#4 Stability: (see Table 1)  
#5 Frequency in MHz: 3 or 6 decimal places

Example:

CCLD-034X-50-311.040  
3.3V, -40/85°C, ±50ppm, 311.040 MHz

**Stability Indicator**

Blank	± 100ppm
50	± 50ppm
25	± 25ppm
20*	± 20ppm

\*not available in -40/85

Table 1

**Standard Frequencies**

(±50ppm, 0/70°C)  
200.000MHz  
212.500MHz  
250.000MHz  
311.040MHz  
312.500MHz

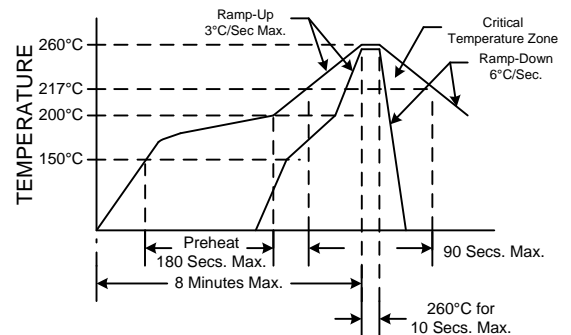
**Mechanical:**

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

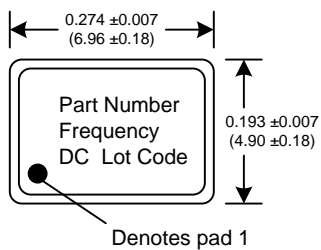
**Environmental:**

Thermal Shock: MIL-STD-883, Method 1011, Condition A  
Moisture Resistance: MIL-STD-883, Method 1004

**RECOMMENDED REFLOW SOLDERING PROFILE**

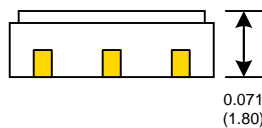


NOTE: Reflow Profile with 240°C peak also acceptable.

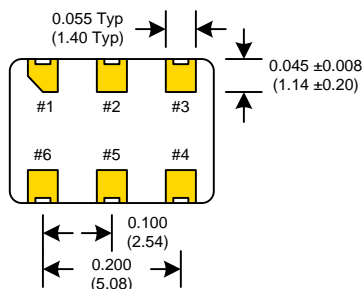


**Dimensions inches (mm)**

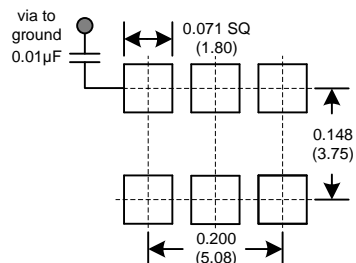
All dimensions are Max unless otherwise specified.



Tristate Function	
Function pin 1	Output pin
Open or N/C	Active
"1" level 0.7xVdd Min	Active
"0" level 0.3xVdd Max	High Z



**SUGGESTED PAD LAYOUT**



0.01µF Bypass Capacitor Recommended

PIN	Connection
1	Enable/Disable
2	N/C
3	GND
4	Output
5	Comp Output
6	Vcc

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