



**CRYSTEK**  
**CRYSTALS**  
A DIVISION OF CRYSTEK CORPORATION

**CCLD-915 9x14mm SMD  
LVDS Clock Oscillator  
3.3 Volts**



**Model CCLD-915 is a 162.0Mhz to 250.0MHz LVDS Clock Oscillator operating at 3.3Volts. 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.**



9x14mm SMD

### **Applications:**

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

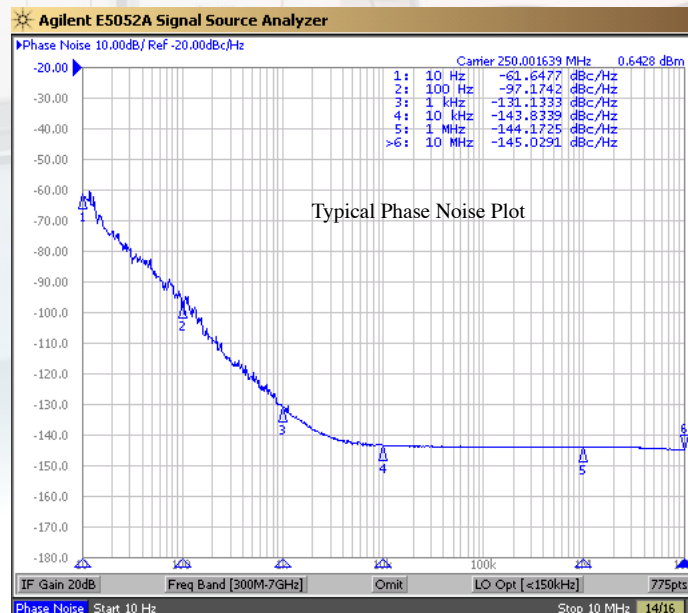


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<b>Frequency Range:</b>	<b>162.0 Mhz to 250.0Mhz</b>
<b>Frequency Stability Options(ppm):</b>	<b>±25, ±50, ±100</b>
<b>Temperature Range: (standard)</b>	<b>0°C to +70°C</b>
<b>(Option M)</b>	<b>-20°C to +70°C</b>
<b>(Option X)</b>	<b>-40°C to +85°C</b>
<b>Storage:</b>	<b>-55°C to 120°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: 100 Ohms</b>	<b>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:</b>	<b>12KHz~80MHz</b>
<b>Phase Noise:</b>	<b>(See Plot Below)</b>
<b>Sub-harmonics:</b>	<b>None</b>
<b>Aging:</b>	<b>&lt;3ppm 1st/yr, &lt;1ppm every year thereafter</b>





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## PART NUMBER GUIDE

CCLD - 915 X - 50 - 200.000  
#1 #2 #3 #4 #5

- #1 Crystek LVDS Osc.
- #2 Model 915
- #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-915X-50-200.000

3.3V, -40/85°C, ±50ppm, 200.000 MHz

### Stability Indicator

Blank (std)	±100ppm
50	±50ppm
25	±25ppm

**Table 1**

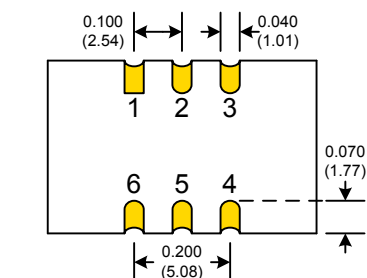
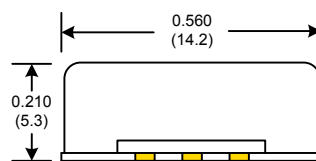
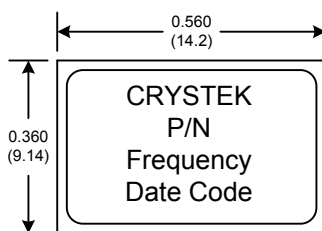
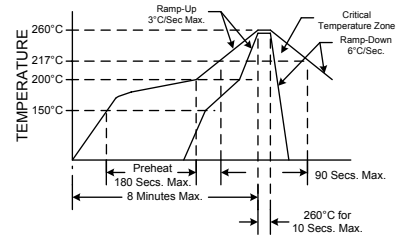
### Mechanical:

- 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

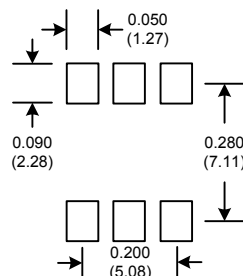
### Environmental:

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

### RECOMMENDED REFLOW SOLDERING PROFILE



### SUGGESTED PAD LAYOUT



### Tri-State Function

Pin #1 State	Output State
Open or N/C	Active
"1" level 0.7*Vcc Min	Active
"0" level 0.3*Vcc Max	High Z

Pad	Connection
1	Enable/Disable
2	N/C
3	GND
4	Out
5	Comp. Out
6	VCC