



CRYSTEK
CRYSTALS
A DIVISION OF CRYSTEK CORPORATION

**CCLD-912 9x14mm SMD
LVDS Clock Oscillator
3.3 Volts**



Model CCLD-912 is a 77.760Mhz to 161.000MHz 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**



CRYSTEK

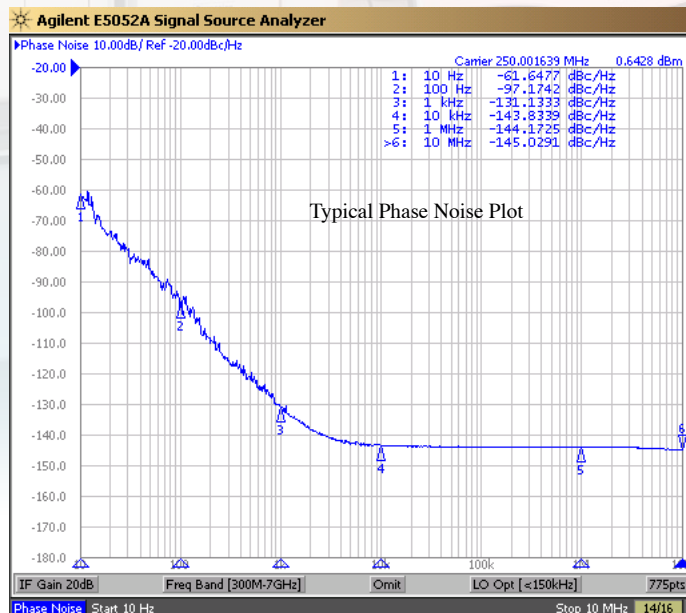
CRYSTALS

A DIVISION OF CRYSTEK CORPORATION

CCLD-912 9x14mm SMD LVDS Clock Oscillator



Frequency Range:	77.760Mhz to 161.000Mhz
Frequency Stability Options(ppm):	±25, ±50, ±100
Temperature Range: (standard)	0°C to +70°C
(Option M)	-20°C to +70°C
(Option X)	-40°C to +85°C
Storage:	-55°C to 120°C
Input Voltage:	3.3V ± 0.3V
Input Current:	45mA Typ., 66mA Max
Output:	Differential LVDS
Symmetry:	45/55% Max @ 50% Vdd
Rise/Fall Time:	1nsec Max @ 20% to 80% Vdd
Load: 100 Ohms	Connected between OUT and COUT
Logic:	
Output Voltage Levels	“0”=0.90 Min., 1.10 Typ.
	“1”=1.43 Typ., 1.60 Max
Differential Output Voltage:	247mV Min., 454mV Max
Disable Time	200nSec Max
Enable Time	2mSec Max
Phase Jitter:	12KHz~80MHz
Phase Noise:	(See Plot Below)
Sub-harmonics:	None
Aging:	<3ppm 1st/yr, <1ppm every year thereafter





CRYSTEK

CRYSTALS

A DIVISION OF CRYSTEK CORPORATION

CCLD-912 9x14mm SMD LVDS Clock Oscillator



PART NUMBER GUIDE

CCLD - 912 X - 50 - 155.520
 #1 #2 #3 #4 #5

- #1 Crystek LVDS Osc.
- #2 Model 912
- #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-912X-50-155.520

3.3V, -40/85°C, ±50ppm, 155.520 MHz

Stability Indicator

Blank(std)	±100ppm
50	±50ppm
25	±25ppm
Table 1	

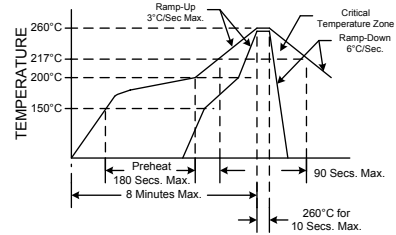
Mechanical:

- 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

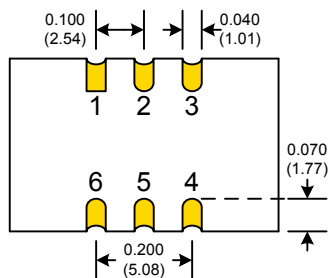
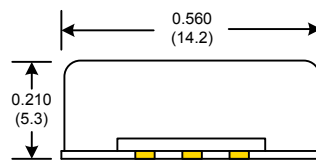
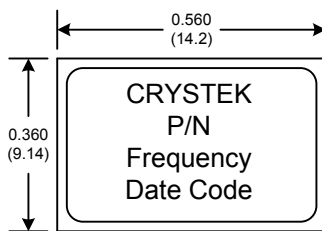
Environmental:

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

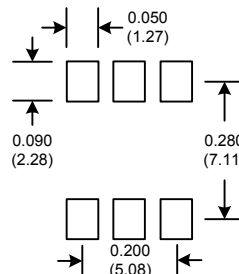
RECOMMENDED REFLOW SOLDERING PROFILE



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



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