

CCLD-033 5×7mm SMD LVDS Clock Oscillator

CCLD-033 Model
5×7 mm SMD, 3.3V, LVDS



Model CCLD-033 is a 77.760 MHz to 161.000 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.



5×7mm SMD

Applications:

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

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CCLD-033 5×7mm SMD LVDS Clock Oscillator

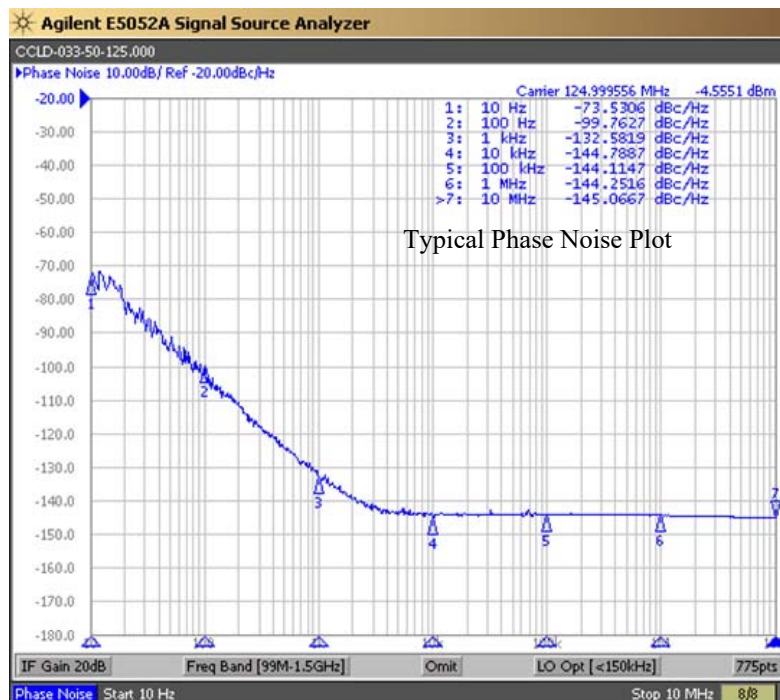
CCLD-033 Model 5×7 mm SMD, 3.3V, LVDS



Frequency Range:	77.760 MHz to 161.000 MHz
Frequency Stability Options(ppm):	±20, ±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:	-45°C to 90°C
Input Voltage:	3.3V ± 0.3V
Input Current:	66mA Max
Standby Current:	30uA Max
Output:	Differential LVDS
Symmetry:	45/55% Max @ zero crossing point
Rise/Fall Time:	1ns Max (20% to 80%)
Load:	100 Ohms Connected between OUT and COUT
Output Drive Capability (see Note 1):	Zero Impedance Bipolar Process
Logic:	
Output Voltage Levels	“0”=0.90 Min, 1.10 Typical “1”=1.43 Typical, 1.60 Max
Differential Output Voltage:	247mV Min, 454mV Max
Disable Time:	200ns Max
Start-up Time:	10ms Max
Phase Jitter: 12kHz~80MHz	0.5ps Typical, 1ps RMS Max
Phase Noise: (See Plot Below)	
Sub-harmonics:	None
Aging:	<3ppm 1 st year, <1ppm every year thereafter

Note 1:

Internal Driver will change to Finite Impedance CMOS Process. Consult factory for additional details and changeover date.



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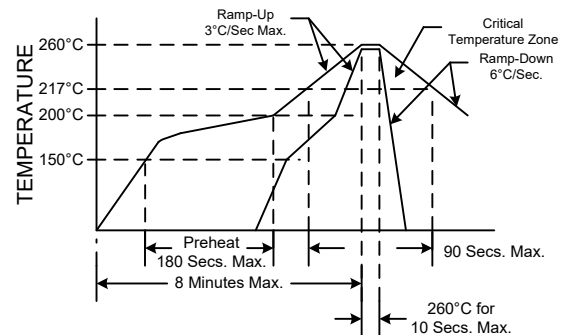
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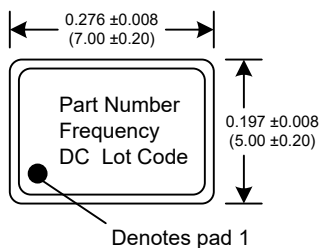
Crystek Part Number Guide																
<u>CCLD - 033 X - 50 - 155.520</u>																
#1	#2	#3	#4	#5												
#1 Crystek LVDS Osc. #2 Model 033 #3 Temp Range: Blank = 0/70°C, M = -20/70°C, X = -40/85°C #4 Stability: (see Table 1) #5 Frequency in MHz: 3 or 6 decimal places																
Example: CCLD-033X-50-155.520 3.3V, -40/85°C, ±50ppm, 155.520 MHz																
			<table border="1"> <thead> <tr> <th colspan="2">Stability Indicator</th> </tr> </thead> <tbody> <tr> <td>Blank</td> <td>± 100ppm</td> </tr> <tr> <td>50</td> <td>± 50ppm</td> </tr> <tr> <td>25</td> <td>± 25ppm</td> </tr> <tr> <td>20*</td> <td>± 20ppm</td> </tr> <tr> <td colspan="2">*not available in -40/85</td> </tr> </tbody> </table>		Stability Indicator		Blank	± 100ppm	50	± 50ppm	25	± 25ppm	20*	± 20ppm	*not available in -40/85	
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25	± 25ppm															
20*	± 20ppm															
*not available in -40/85																
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

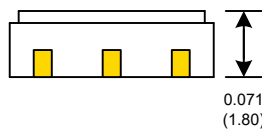
RECOMMENDED REFLOW SOLDERING PROFILE



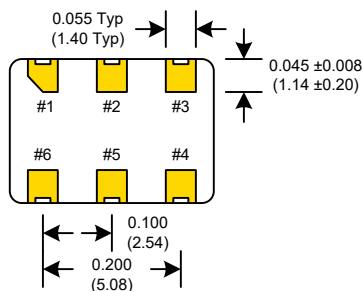
NOTE: Reflow Profile with 240°C peak also acceptable.



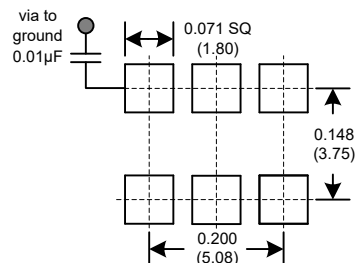
Dimensions inches (mm)
All dimensions are Max unless otherwise specified.



Enable/Disable	
Function pin 1	Output pin
Open or N/C	Active
"1" level 0.7×V _{dd} Min	Active
"0" level 0.3×V _{dd} 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	V _{cc}

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