

# CCLD-023 5×7mm SMD LVDS Clock Oscillator

**CCLD-023 Model**  
5×7 mm SMD, 2.5V, LVDS



**Model CCLD-023 is a 77.760 MHz to 161.000 MHz LVDS Clock Oscillator operating at 2.5 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:**

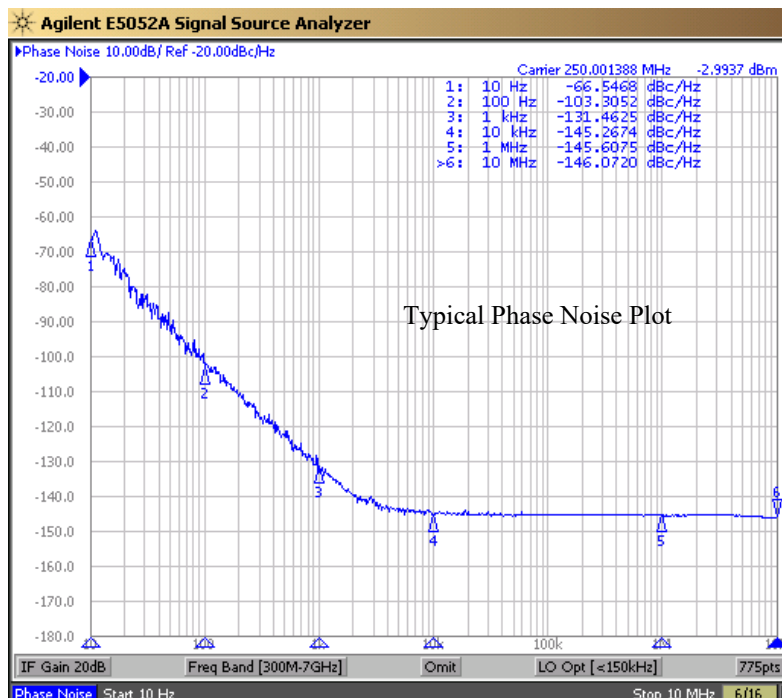
**Digital Video  
SONET/SDH/DWDM  
Storage Area Networks  
Broadband Access  
Ethernet, Gigabit Ethernet**

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## CCLD-023 Model 5×7 mm SMD, 2.5V, LVDS



<b>Frequency Range:</b>	77.760 MHz to 161.000 MHz
<b>Frequency Stability Options(ppm):</b>	±20, ±25, ±50, ±100
<b>Temperature Range:</b>	(standard) 0°C to +70°C
	-20°C to +70°C
	(Option M)
	-40°C to +85°C
	(Option X)
<b>Storage:</b>	-45°C to 90°C
<b>Input Voltage:</b>	2.5V ±0.125V
<b>Input Current:</b>	43mA Typical, 63mA Max
<b>Standby Current:</b>	30uA Max
<b>Output:</b>	Differential LVDS
<b>Symmetry:</b>	45/55% Max @ zero crossing point
<b>Rise/Fall Time:</b>	1ns Max (20% to 80%)
<b>Load:</b>	100 Ohms Connected between OUT and COUT
<b>Logic:</b>	
<b>Output Voltage Levels</b>	“0”=0.90 Min, 1.10 Typical
	“1”=1.43 Typical, 1.60 Max
<b>Differential Output Voltage:</b>	247mV Min, 454mV Max
<b>Disable Time:</b>	200ns Max
<b>Start-up Time:</b>	10ms Max
<b>Phase Jitter: 12kHz~80MHz</b>	0.5ps Typical, 1ps RMS Max
<b>Phase Noise: (See Plot Below)</b>	
<b>Sub-harmonics:</b>	None
<b>Aging:</b>	<3ppm 1 <sup>st</sup> year, <1ppm every year thereafter



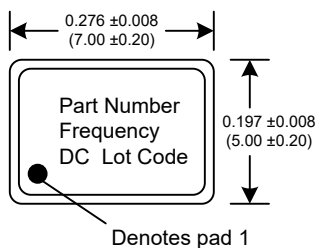
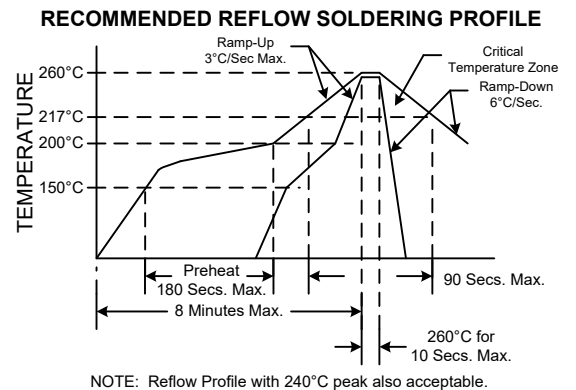
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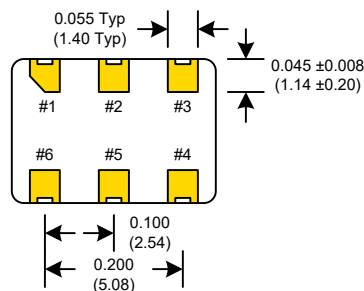
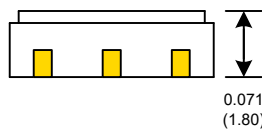


Crystek Part Number Guide																
<u>CCLD - 023 X - 50 - 155.520</u>																
#1	#2	#3	#4	#5												
#1 Crystek LVDS Osc. #2 Model 023 #3 Temp Range: Blank = 0/70°C, M = -20/70°C, X = -40/85°C #4 Stability: (see Table 1) #5 Frequency in MHz: 3 or 6 decimal places																
Example: CCLD-023X-50-155.520 2.5V, -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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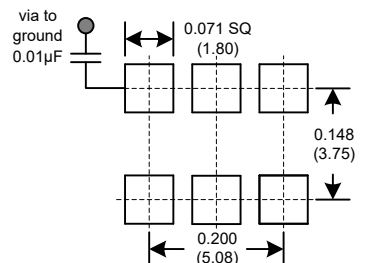
Mechanical:	
Shock:	MIL-STD-883, Method 2002, Condition B
Solderability:	MIL-STD-883, Method 2003
Vibration:	MIL-STD-883, Method 2007, Condition A
Solvent Resistance:	MIL-STD-202, Method 215
Resistance to Soldering Heat:	MIL-STD-202, Method 210, Condition I or J
Environmental:	
Thermal Shock:	MIL-STD-883, Method 1011, Condition A
Moisture Resistance:	MIL-STD-883, Method 1004



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



**SUGGESTED PAD LAYOUT**



0.01µF Bypass Capacitor Recommended

Enable/Disable	
Function pin 1	Output pin
Open or N/C	Active
"1" level 0.7×V <sub>dd</sub> Min	Active
"0" level 0.3×V <sub>dd</sub> Max	High Z

PIN	Connection
1	Enable/Disable
2	N/C
3	GND
4	Output
5	Comp Output
6	V <sub>cc</sub>

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