

**CCPD-033 Model**  
5×7 mm SMD, 3.3V, LVPECL



**Model CCPD-033 is a 77.760MHz to 161.000MHz LVPECL 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.**



**5×7mm SMD**

**Applications:**

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

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<b>Frequency Range:</b>	<b>77.760MHz to 161.000MHz</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>55mA Typ., 88mA Max</b>
<b>Output:</b>	<b>Differential LVPECL</b>
<b>Symmetry:</b>	<b>45/55% Max @ 50% Vdd</b>
<b>Rise/Fall Time:</b>	<b>1nsec Max @ 20% to 80% Vdd</b>

**Logic: Terminated to Vdd-2V into 50 Ω**

**Temp. 0°C to 85°C**      **“0”=1.490 Min., 1.680 Max**

**“1”=2.275 Min., 2.420 Max**

**Temp. -40°C to 0°C**      **“0”=1.470 Min., 1.745 Max**

**“1”=2.215 Min., 2.420 Max**

**Disable Time:**      **200nSec Max**

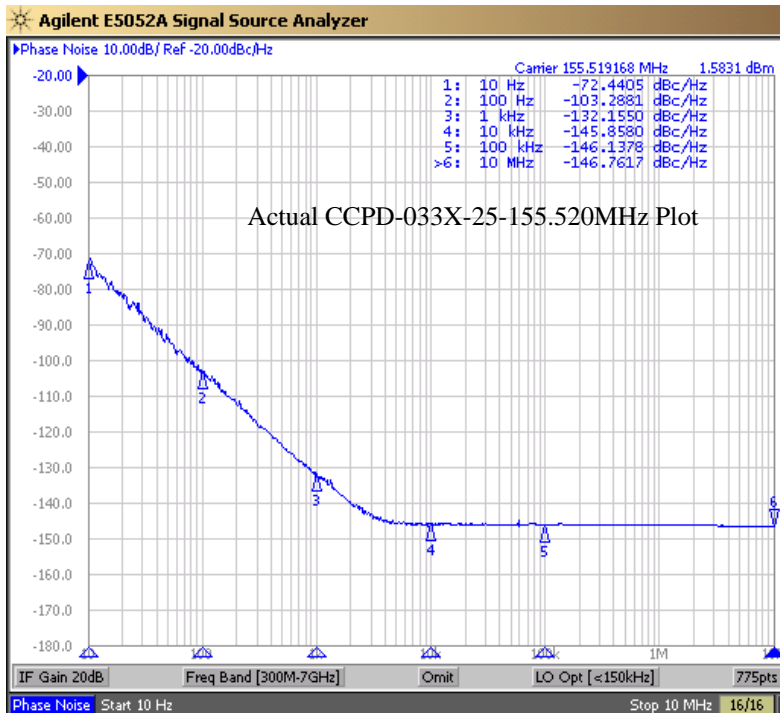
**Enable Time:**      **1mSec Typ., 2mSec Max**

**Phase Jitter: 12kHz~80MHz**      **0.5psec Typ., 1psec RMS Max**

**Phase Noise: (See Plot Below)**

**Sub-harmonics:**      **None**

**Aging:**      **<3ppm 1st/yr, <1ppm every year thereafter**



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### Crystek Part Number Guide

CCPD - 033 X - 25 - 155.520

#1      #2    #3    #4      #5

#1 Crystek LVPECL 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:  
CCPD-033X-25-155.520  
3.3V, -40/85°C, ±25ppm, 155.520 MHz

Stability Indicator	
Blank	± 100ppm
50	± 50ppm
25	± 25ppm
20*	± 20ppm
*not available in -40/85	

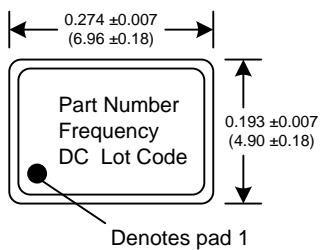
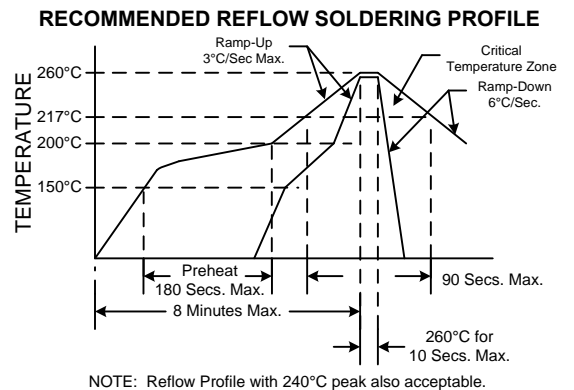
Table 1

**Mechanical:**

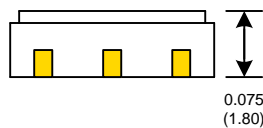
Shock: MIL-STD-883, Method 2002, Condition B  
Solderability: MIL-STD-883, Method 2003  
Vibration: MIL-STD-883, Method 2007, Condition A  
Solvent Resistance: MIL-STD-202, Method 215  
Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition I or J

**Environmental:**

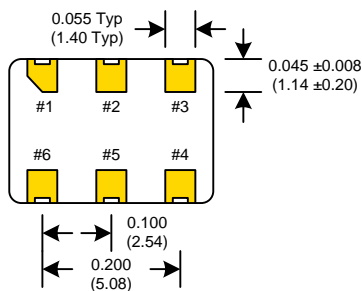
Thermal Shock: MIL-STD-883, Method 1011, Condition A  
Moisture Resistance: MIL-STD-883, Method 1004



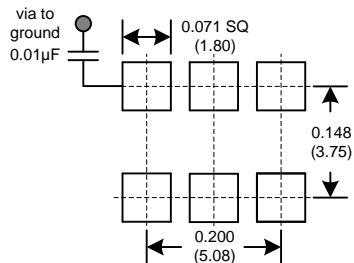
Dimensions inches (mm)  
All dimensions are Max unless otherwise specified.



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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