

# CCPD-033 Model 5X7 mm SMD, 3.3V, LVPECL



# Differential LVPECL Clock Oscillator

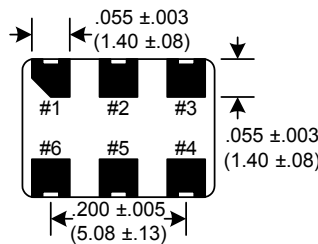
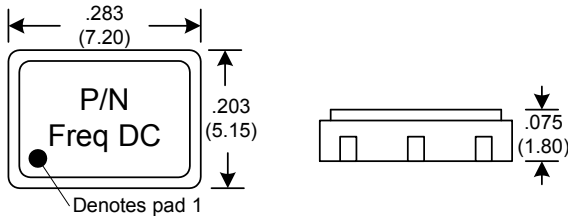


<b>Frequency Range:</b>	77.760MHz to 161.1328MHz
<b>Frequency Stability:</b>	±20ppm to ±100ppm
<b>Temperature Range:</b>	0°C to 70°C
(Option M)	-20°C to 70°C
(Option X)	-40°C to 85°C
<b>Storage:</b>	-55°C to 120°C
<b>Input Voltage:</b>	3.3V ± 0.3V
<b>Input Current:</b>	55mA Typ, 88mA Max
<b>Output:</b>	Differential LVPECL
Symmetry:	45/55% Max @ 50% Vdd
Rise/Fall Time:	1ns Max @ 20% to 80% Vdd
Logic:	Terminated to Vdd-2V into 50 ohms
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	200ns Max
Start-up Time	1mSec Typ., 2mSec Max
<b>Phase Jitter:</b>	12KHz to 80MHz 0.5 psec Typ., 1ps RMS Max
<b>Phase Noise:</b>	10Hz -65dBc Typical
100Hz -98dBc Typical	
1KHz -125dBc Typical	
10KHz -140dBc Typical	
100KHz~100MHz -145dBc Typical	
<b>Aging:</b>	<3ppm 1st/yr, <1ppm every year thereafter

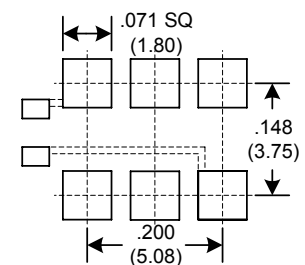
Designed to meet today's requirements for 3.3V Complementary LVPECL applications. The CCPD-033 uses a high Q crystal providing very low jitter and phase noise for demanding applications. Available on 16mm tape and reel in quantities of 1K.

Dimensions inches (mm)

All dimensions are Max unless otherwise specified.

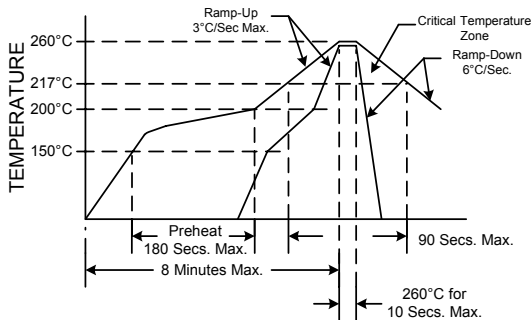


### SUGGESTED PAD LAYOUT



Bypass Capacitor Recommended

### RECOMMENDED REFLOW SOLDERING PROFILE



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

Pad	Connection
1	E/D
2	N/C
3	GND
4	OUT
5	COUT
6	Vdd

Table 2

Tri-State Function	
E/D pin	Output pin
Open	Active
"1" level 0.7V Min	Active
"0" level 0.3V Max	High Z

Table 3

### Crystek Part Number Guide

**CCPD-033 X - 25 - 155.520**

#1 #2 #3 #4 #5

#1 Crystek 5x7 SMD PECL Osc.  
#2 Model 033 = 3.3V  
#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

#### Stability Indicator:

Blank (std) ± 100ppm  
50 ± 50ppm  
25 ± 25ppm  
20 \*\* ± 20ppm  
\*\* only available 0/70°C

Table 1

Example:  
CCPD-033X-25-155.520 = 3.3V, 45/55, -40/85°C, 25ppm, 155.520 MHz

#### 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

Specifications subject to change without notice.

TD-020904 Rev.K



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