CRYSTEK CRYSTALS
A DIVISION OF CRYSTEK CORPORATION

CCPD-033 LVPECL Clock Oscillator 5x7mm SMD 3.3 Volts

RoHS Compliant

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.

5x7mm SMD

Applications:

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

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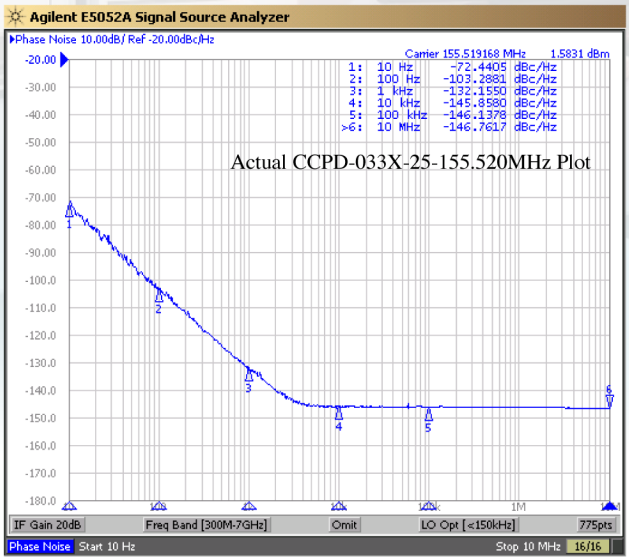
Frequency Range:		**77.760MHz to 161.000MHz**
Frequency Stability Options(ppm):		**±20, ±25, ±50, ±100**
Temperature Range: (standard)		**0°C to +70°C**
	(Option M)	**-20°C to +70°C**
	(Option X)	**-40°C to +85°C**
Storage:		**-55°C to 120°C**
Input Voltage:		**3.3V ± 0.3V**
Input Current:		**55mA Typ., 88mA Max**
Output:		**Differential LVPECL**
Symmetry:		**45/55% Max @ 50%Vdd**
Rise/Fall Time:		**1nsec 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	**200nSec Max**
	Start-up 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 year, <1ppm every year thereafter**



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PART NUMBER GUIDE

CCPD - 033 X - 25 - 155.520
#1 #2 #3 #4 #5

#1 Crystek PECL Oscillator
#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(std)	±100ppm
50	±50ppm
25	±25ppm
20	±20ppm
Table 1	

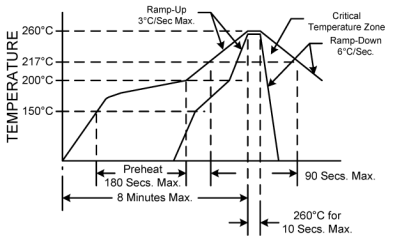
Mechanical:

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

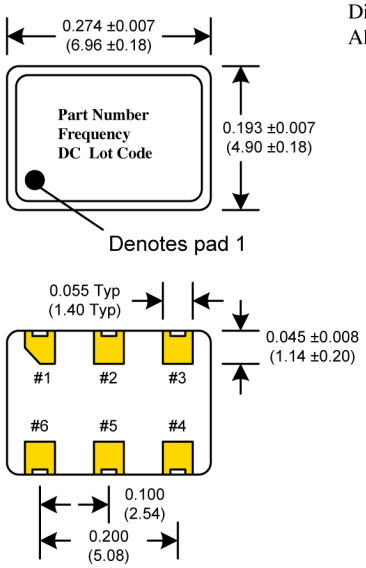
Environmental:

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

RECOMMENDED REFLOW SOLDERING PROFILE



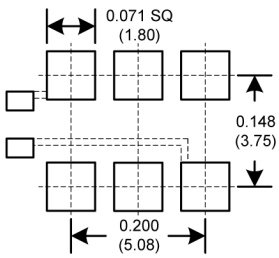
NOTE: Reflow Profile with 240°C peak also acceptable.



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

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

SUGGESTED PAD LAYOUT



0.01uF Bypass Capacitor Recommended

Pad	Connection
1	Enable/Disable
2	N/C
3	GND
4	Out
5	Comp. Out
6	VCC

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