



CRYSTEK
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A DIVISION OF CRYSTEK CORPORATION

**CCPD-033 5x7mm SMD
LVPECL Clock Oscillator
3.3 Volts**



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 $\pm$ 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

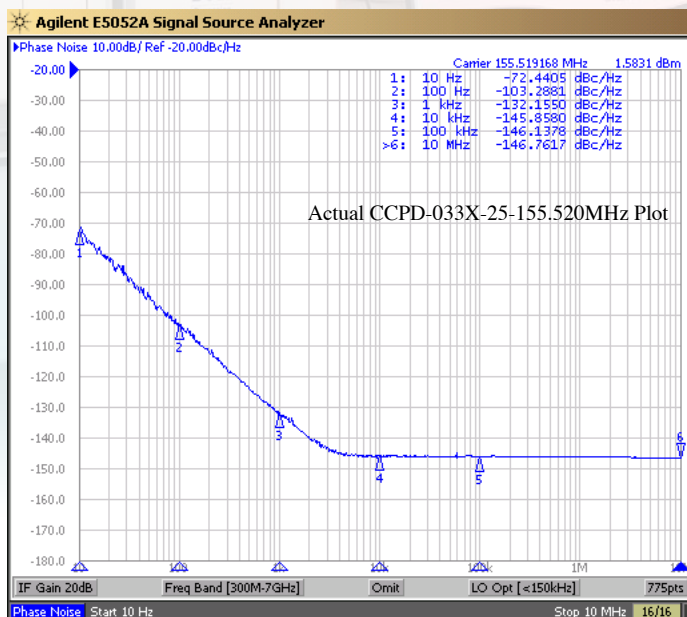
Temp. -40°C to 0°C "0"=1.470 Min., 1.745 Max
"1"=2.215 Min., 2.420 Max

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) None

Sub-harmonics: None
Aging: <3ppm 1st/yr, <1ppm every year thereafter



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Rev.: M
Date: 10-10-07



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PART NUMBER GUIDE

CCPD - 033 X - 25 - 155.520

#1 #2 #3 #4 #5

#1 Crystek PECL 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(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

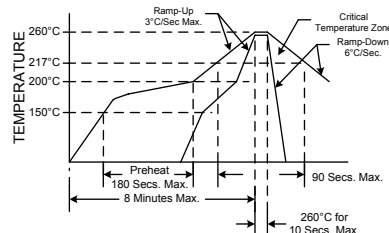
Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition I or J

Environmental:

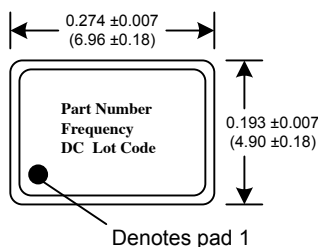
Thermal Shock: MIL-STD-883, Method 1011, Condition A

Moisture Resistance: MIL-STD-883, Method 1004

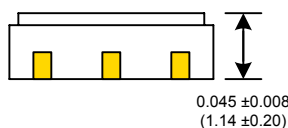
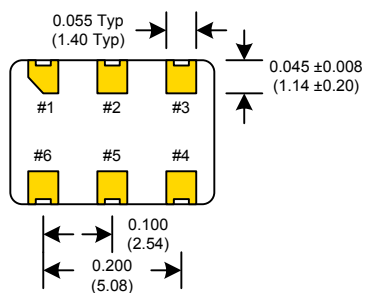
RECOMMENDED REFLOW SOLDERING PROFILE



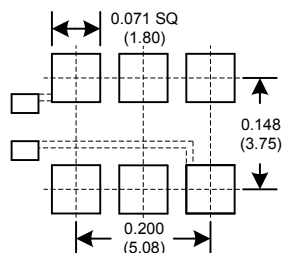
NOTE: Reflow Profile with 240°C peak also acceptable.



Denotes pad 1



SUGGESTED PAD LAYOUT



0.01uF Bypass Capacitor Recommended

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

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



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