



CRYSTEK
CRYSTALS
A DIVISION OF CRYSTEK CORPORATION

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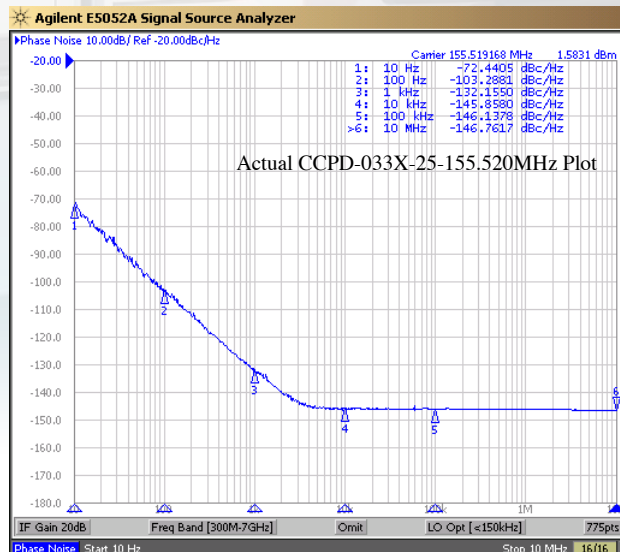
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CCPD-033 LVPECL Clock Oscillator 5x7mm SMD 3.3 Volts



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
Phase Noise:	(See Plot Below)
Sub-harmonics:	None
Aging:	<3ppm 1st year, <1ppm every year thereafter





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CCPD-033 LVPECL

Clock Oscillator

5x7mm SMD

3.3 Volts



PART NUMBER GUIDE

CCPD - 033 X - 25 - 155.520

- #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

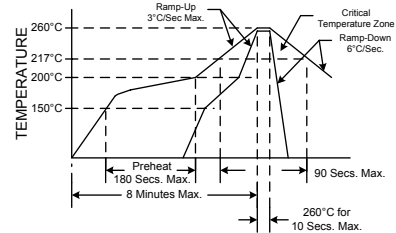
Mechanical:

- 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:

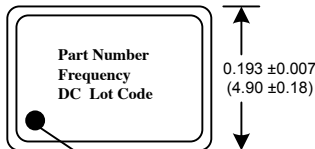
- Thermal Shock:** MIL-STD-883, Method 1011, Condition A
- Moisture Resistance:** MIL-STD-883, Method 1004

RECOMMENDED REFLOW SOLDERING PROFILE

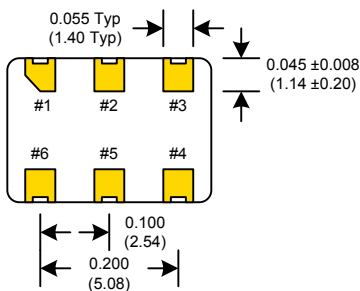


NOTE: Reflow Profile with 240°C peak also acceptable.

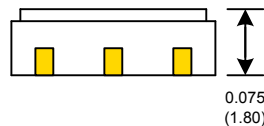
0.274 ±0.007
(6.96 ±0.18)



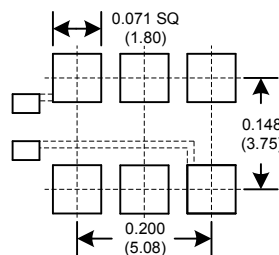
Denotes pad 1



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



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