



CRYSTEK
CRYSTALS
A DIVISION OF CRYSTEK CORPORATION

CCPD-024 5x7mm SMD
LVPECL Clock Oscillator
2.5 Volts



Model CCPD-024 is a 162MHz to 312.500MHz LVPECL Clock Oscillator operating at 2.5Volts. 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



CRYSTEK

CRYSTALS

A DIVISION OF CRYSTEK CORPORATION

CCPD-024 5x7mm SMD LVPECL Clock Oscillator



Frequency Range: 162.000Mhz to 312.500Mhz
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: 2.5V ± 0.125V
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"=0.690 Min., 1.095 Max
 "1"=1.475 Min., 1.760 Max
Temp. -40°C to 0°C "0"=0.670 Min., 1.195 Max
 "1"=1.415 Min., 1.620 Max
Disable Time 200nSec Max
Start-up Time 1mSec Typ., 2mSec Max

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

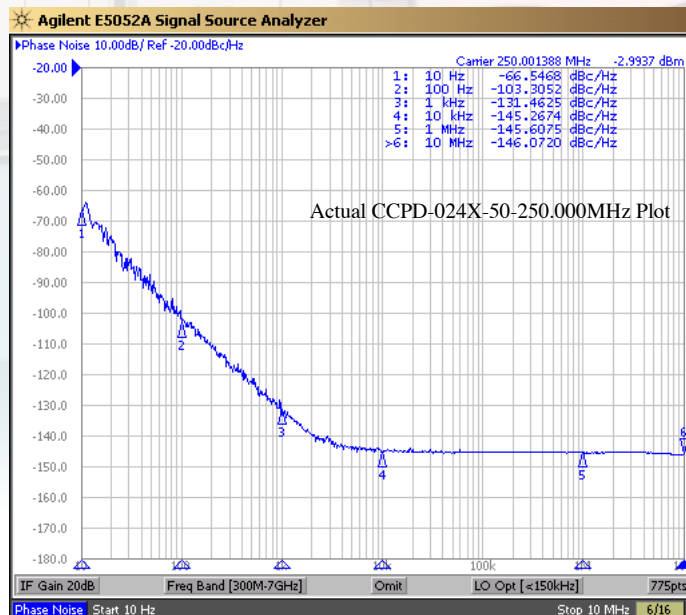
Phase Noise: (See Plot Below)

Sub-harmonics:

None

Aging:

<3ppm 1st/yr, <1ppm every year thereafter





CRYSTEK

CRYSTALS

A DIVISION OF CRYSTEK CORPORATION

CCPD-024 5x7mm SMD LVPECL Clock Oscillator



PART NUMBER GUIDE

CCPD - 024 X - 25 - 250.000

#1 #2 #3 #4 #5

#1 Crystek PECL Osc.

#2 Model 024

#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-024X-25-250.000

2.5V, -40/85°C, ±25ppm, 250.000 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

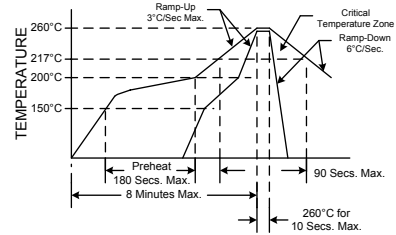
Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition I or J

Environmental:

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

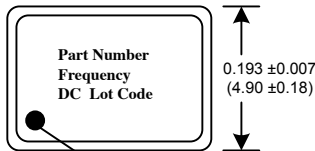
Moisture Resistance: MIL-STD-883, Method 1004

RECOMMENDED REFLOW SOLDERING PROFILE

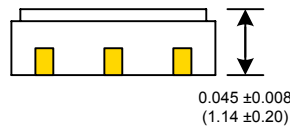
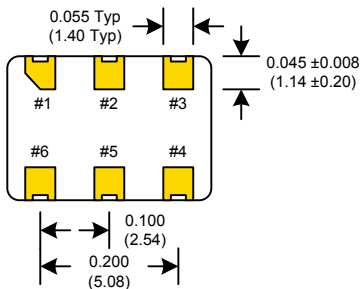


NOTE: Reflow Profile with 240°C peak also acceptable.

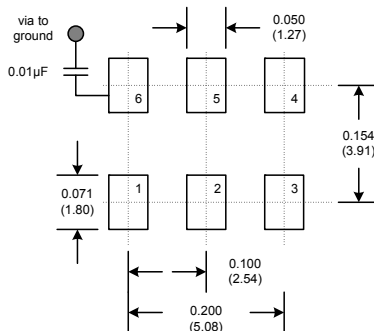
0.274 ±0.007
(6.96 ±0.18)



Denotes pad 1



SUGGESTED PAD LAYOUT



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