

CCPD-024 Model
5×7 mm SMD, 2.5V, LVPECL



Model CCPD-024 is a 162.000 MHz to 312.500 MHz LVPECL Clock Oscillator operating at 2.5 Volts. 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.



5×7mm SMD

Applications:

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

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Frequency Range:	162.000 MHz to 312.500 MHz
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:	-45°C to 90°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 Ω

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

Enable Time:

1mSec Typ., 2mSec Max

Phase Jitter: 12kHz~80MHz

0.5psec Typ., 1psec RMS Max

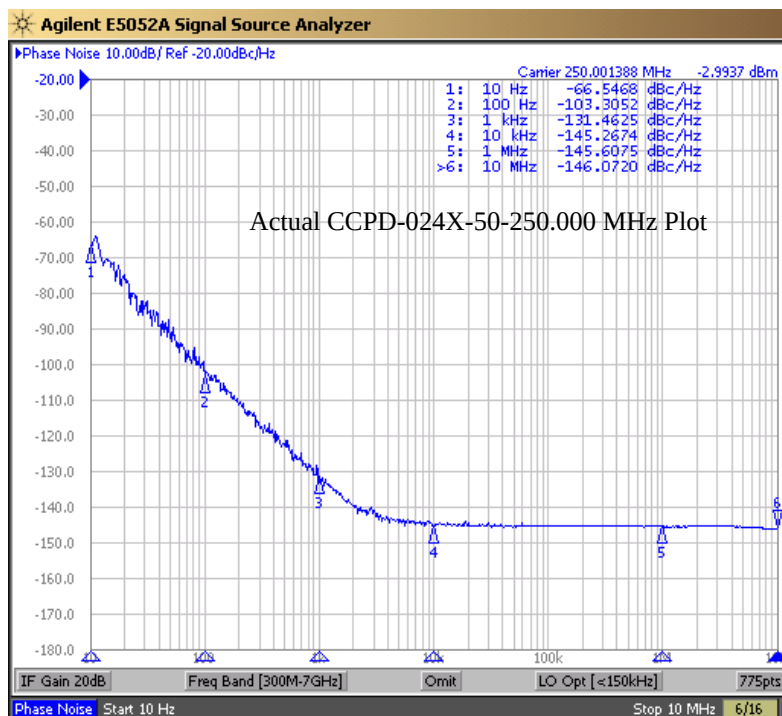
Phase Noise: (See Plot Below)

Sub-harmonics:

None

Aging:

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



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Crystek Part Number Guide

CCPD - 024 X - 25 - 250.000

#1 #2 #3 #4 #5

#1 Crystek LVPECL 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	± 100ppm
50	± 50ppm
25	± 25ppm
20*	± 20ppm

*not available in -40/85

Table 1

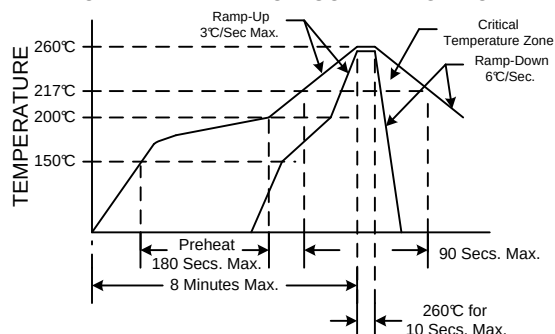
Mechanical:

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

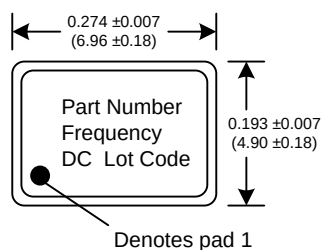
Environmental:

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

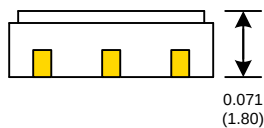
RECOMMENDED REFLOW SOLDERING PROFILE



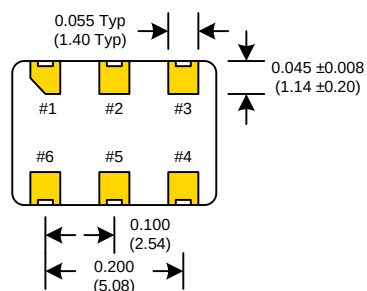
NOTE: Reflow Profile with 240°C peak also acceptable.



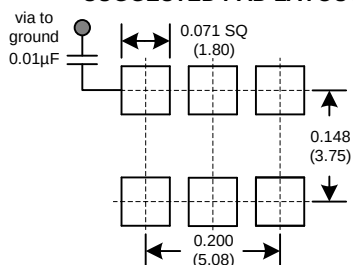
Dimensions inches (mm)
All dimensions are Max unless otherwise specified.



Tristate Function	
Function pin 1	Output pin
Open or N/C	Active
"1" level 0.7×Vdd Min	Active
"0" level 0.3×Vdd Max	High Z



SUGGESTED PAD LAYOUT



0.01μF Bypass Capacitor Recommended

PIN	Connection
1	Enable/Disable
2	N/C
3	GND
4	Output
5	Comp Output
6	Vcc

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