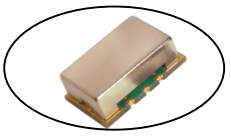
CRYSTEK CRYSTALS
A Division of Crystek Corporation



# Differential LVPECL Clock Oscillator

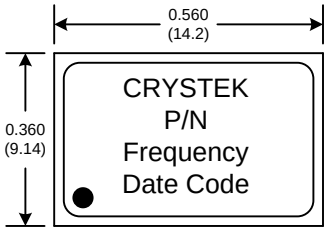
## CCPD-920 Model
9×14 mm SMD, **3.3V, LVPECL**

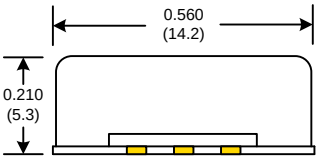
| | | |
|---|---|---|
| **Frequency Range:** | | 50 MHz to 150 MHz |
| **Frequency Stability:** | | ±20, ±25, ±50ppm (0°C to 70°C) |
| | | ±25, ±50ppm (-40°C to 85°C) |
| **Temperature Range:** | | 0°C to 70°C |
| | (Option X) | -40°C to 85°C |
| **Storage:** | | -45°C to 90°C |
| **Input Voltage:** | | 3.3V ± 0.3V |
| **Input Current:** | | 88mA Max |
| **Output:** | | Differential LVPECL |
| | Symmetry: | 45/55% Max @ zero crossing point |
| | Rise/Fall Time: | 1ns Max (20% to 80%) |
| | Linearity: | ± 10% Max |
| | Logic: Terminated to Vdd-2V | into 50 ohms |
| | Logic "0" | "0" = Vcc-1.85V Min, Vcc-1.62V Max |
| | Logic "1" | "1" = Vcc-1.02V Min, Vcc-0.81V Max |
| | Disable Time | 200ns Max |
| | Start-up Time | 1ms Typical, 2ms Max |
| **Phase Jitter:** | 12kHz to 80MHz | 0.5psec Typical, 1psec RMS Max |
| **Phase Noise:** | 10Hz | -65 dBc/Hz Typical |
| | 100Hz | -98 dBc/Hz Typical |
| | 1kHz | -125 dBc/Hz Typical |
| | 10kHz | -140 dBc/Hz Typical |
| | 100kHz - 100MHz | -145 dBc/Hz Typical |
| **Aging:** | | <3ppm 1st year, <1ppm every year thereafter |

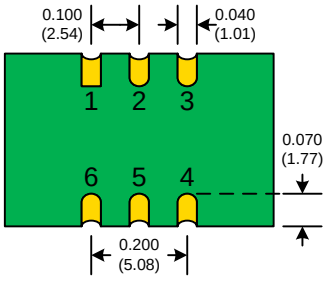
RoHS Compliant

CRYSTEK CORPORATION
MADE IN THE USA

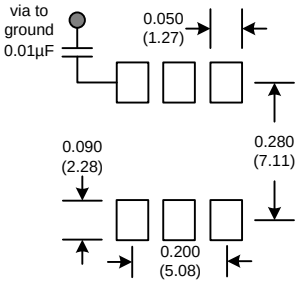
Designed to meet today's requirements for 3.3V Differential LVPECL applications. The CCPD-920 is produced using our cost saving FR5 PCB and UM-1 overtone crystal technology. This design offers considerable cost savings over other HFF XO's products. Also available in 14 pin dip fully hermetic package.




**SUGGESTED PAD LAYOUT**




**RECOMMENDED REFLOW SOLDERING PROFILE**
**900034 (See App Note listed on website)**
http://www.crystek.com/specification/reflow/900034.pdf

| PIN | Function |
|---|---|
| 1 | NC |
| 2 | E/D |
| 3 | GND |
| 4 | OUT |
| 5 | $\overline{\text{OUT}}$ |
| 6 | Vdd |

| Tri-State Function | |
|---|---|
| Function pin 2 | Output pin |
| Open | Active |
| "0" level Vcc-1.620V Max | Active |
| "1" level Vcc-1.025V Min | High Z |
| Disabled State: Pin 4 will assume a fixed level of logic "0" Pin 5 will assume a fixed level of logic "1" | |

## Crystek Part Number Guide

CCPD-920 X - 25 - 100.000
#1 #2 #3 #4 #5

#1 Crystek 9×14 SMD PECL OSC
#2 Model 920
#3 Temp. Range: Blank = 0/70°C, X=-40/85°C
#4 Stability: (see Table 1)
#5 Frequency in MHz: 3 or 6 decimal places

| Stability Indicator |
|---|
| 20 = 0/70°C (±20ppm) |
| 25 = 0/70°C (±25ppm) |
| 50 = 0/70°C (±50ppm) |
| 25 = -40/85°C (±25ppm) |
| 50 = -40/85°C (±50ppm) |

Example:
CCPD-920X-25-100.000 = 3.3V, 45/55, -40/85°C, 25ppm, 100.000 MHz

Table 1

Specifications subject to change without notice.

TD-051101 Rev. G

CRYSTEK CORPORATION
12730 Commonwealth Drive • Fort Myers, Florida 33913
Phone: 239-561-3311 • 800-237-3061
Fax: 239-561-1025 • www.crystek.com