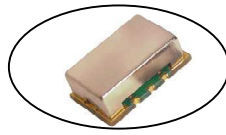




**CRYSTEK**  
CRYSTALS  
A DIVISION OF CRYSTEK CORPORATION



# Differential LVPECL Clock Oscillator

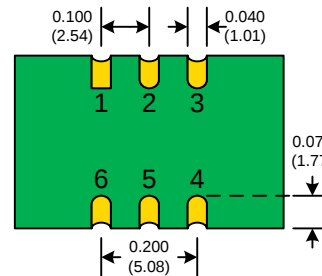
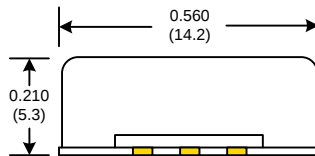
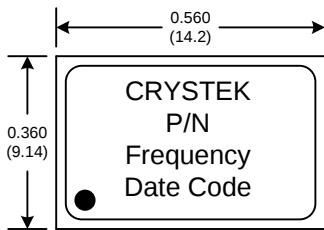
## CCPD-912 Model

9x14 mm SMD, 3.3V, LVPECL

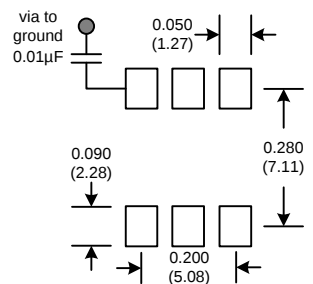
|                             |                                                         |
|-----------------------------|---------------------------------------------------------|
| <b>Frequency Range:</b>     | 77.760 MHz to 161.1328 MHz                              |
| <b>Frequency Stability:</b> | ±20ppm to ±100ppm                                       |
| <b>Temperature Range:</b>   | 0°C to 70°C                                             |
|                             | (Option M) -20°C to 70°C                                |
|                             | (Option X) -40°C to 85°C                                |
| <b>Storage:</b>             | -45°C to 90°C                                           |
| <b>Input Voltage:</b>       | 3.3V ± 0.3V                                             |
| <b>Input Current:</b>       | 55mA Typical, 88mA Max                                  |
| <b>Output:</b>              | Differential LVPECL                                     |
|                             | Symmetry: 45/55% Max @ 50% Vdd                          |
|                             | Rise/Fall Time: 1ns Max @ 20% to 80% Vdd                |
|                             | Logic: Terminated to Vdd-2V into 50 ohms                |
|                             | Temp. 0°C to 85°C                                       |
|                             | Temp. -40°C to 0°C                                      |
|                             | Disable Time: 200ns Max                                 |
|                             | Start-up Time: 1mSec Typical, 2mSec Max                 |
| <b>Jitter:</b>              | 12kHz to 20MHz                                          |
|                             | 0.45 psec Typical @ 80 MHz, 1ps RMS Max                 |
|                             | 0.25 psec Typical @ 160 MHz, 1ps RMS Max                |
| <b>Phase Noise:</b>         | 10Hz -65 dBc Typical                                    |
|                             | 100Hz -98 dBc Typical                                   |
|                             | 1kHz -125 dBc Typical                                   |
|                             | 10kHz -140 dBc Typical                                  |
|                             | 100kHz~100MHz -145 dBc Typical                          |
| <b>Aging:</b>               | <3ppm 1 <sup>st</sup> year, <1ppm every year thereafter |



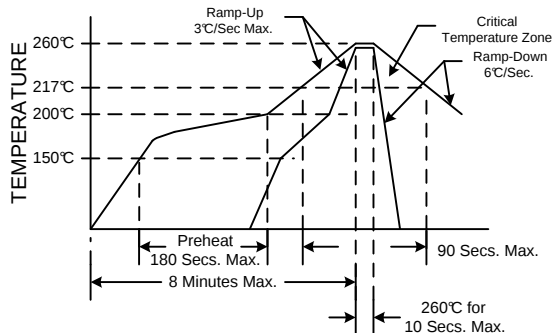
Designed to meet today's requirements for 3.3V Differential LVPECL applications. The CCPD-912 is a very low noise, low jitter clock oscillator for demanding telecom and other applications.



### SUGGESTED PAD LAYOUT



### RECOMMENDED REFLOW SOLDERING PROFILE



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

| PIN | Function |
|-----|----------|
| 1   | E/D      |
| 2   | NC       |
| 3   | GND      |
| 4   | OUT      |
| 5   | COUT     |
| 6   | Vdd      |

| Tri-State Function |            |
|--------------------|------------|
| Function pin 1     | Output pin |
| Open               | Active     |
| "1" level 0.7V Min | Active     |
| "0" level 0.3V Max | High Z     |

### Crystek Part Number Guide

CCPD-912 X - 25 - 155.520

#1 #2 #3 #4 #5

#1 Crystek SMD PECL Osc.  
#2 Model 912 = 9x14mm smd 6pad 3.3V  
#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

#### Stability Indicator

|                          |          |
|--------------------------|----------|
| Blank (std)              | ± 100ppm |
| 50                       | ± 50ppm  |
| 25                       | ± 25ppm  |
| 20 **                    | ± 20ppm  |
| ** only available 0/70°C |          |

Example:  
CCPD-912X-25-155.520 = 3.3V, 45/55, -40/85°C, 25ppm, 155.520 MHz

Table 1

Specifications subject to change without notice.

TD-030403 Rev. F



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