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# CCPD-575 5×7.5mm SMD Ultra-Low Phase Noise LVPECL Clock Oscillator



Model CCPD-575 has an industry leading phase noise for an LVPECL oscillator. The noise floor is typically @ -162 dBc/Hz! This is at least 15 dB lower phase noise than most LVPECL oscillators on the market today. Close-in phase noise is also excellent @ -90 dBc/Hz for the 100 MHz variant. This overall ultra-low phase noise translates to a typical phase jitter of 65 fs RMS (12 kHz to 20 MHz) at 156.250 MHz.







5×7.5mm SMD

## **Applications:**

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

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**Frequency Range:** 50.000 MHz to 156.250 MHz\*

CCPD-575 5×7.5mm SMD

Ultra-Low Phase Noise

LVPECL Clock Oscillator

\*Standard Frequencies

(MHz)

80.000

100.000 122.880

125.000

156.250

**Frequency Stability Options:**  $\pm 20$ ppm,  $\pm 25$ ppm,  $\pm 50$ ppm

**Operating Temperature Range:** -40°C to +85°C **Storage Temperature Range:** -45°C to 90°C  $3.3V \pm 0.3V$ 

**Input Voltage: Input Current:** 80mA Typical, 88mA Max

**Output:** 

**Symmetry:** 40/60% Max @ zero crossing point

**Differential LVPECL** 

**Rise/Fall Time:** 300 ps Max (20% to 80%)

Logic Terminated to Vdd-2V into 50  $\Omega$ :

**Output Low Voltage:** "0"=1.37 Min, 1.74 Max **Output High Voltage:** "1"=2.05 Min, 2.54 Max

**Disable Time:** 200 ns Max **Enable Time:** 200 ms Max

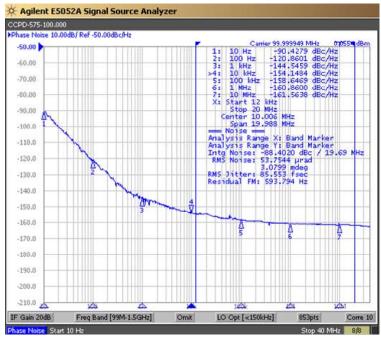
65 fs RMS Typical @ 156.250 MHz Phase Jitter: 12kHz~20MHz

**Phase Noise: (See Plot Below)** None **Sub-harmonics:** 

<3ppm 1<sup>st</sup> year, <1ppm every year thereafter</p> Aging:

Part Number Example: CCPD-575X-20-100.000 3.3V, -40/85°C, ±20ppm, 100.000 MHz

## 100.000 MHz LVPECL 3.3V



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Specifications subject to change without notice.



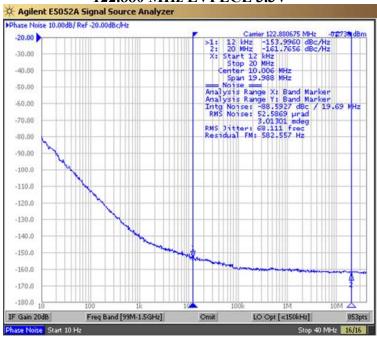




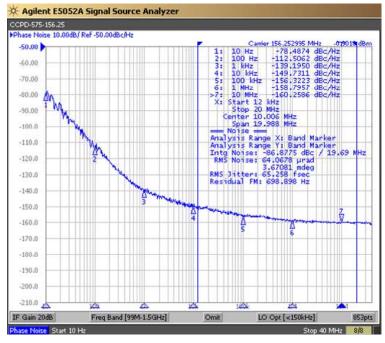
# CCPD-575 5×7.5mm SMD Ultra-Low Phase Noise LVPECL Clock Oscillator

## RoHS Compliant

## 122.880 MHz LVPECL 3.3V



## 156.250 MHz LVPECL 3.3V



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# CCPD-575 5×7.5mm SMD Ultra-Low Phase Noise LVPECL Clock Oscillator



#### 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

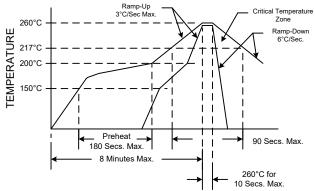
Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition I or J

**Environmental:** 

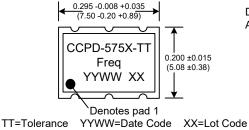
Thermal Shock: MIL-STD-883, Method 1011, Condition A

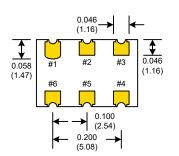
Moisture Resistance: MIL-STD-883, Method 1004

#### RECOMMENDED REFLOW SOLDERING PROFILE



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





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



### SUGGESTED PAD LAYOUT

via to ground • 0.01µF	6 5	0.050 (1.27) 4	<u></u>
0.071 (1.80)	0.10	3	0.154 (3.91)
	(2.54 (5.08)	*)	

Enable/Disable		
Function pin 1	Output pin	
Open or N/C "1" level 2.0V Min "0" level 0.8V Max	Active Active High Z	

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

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