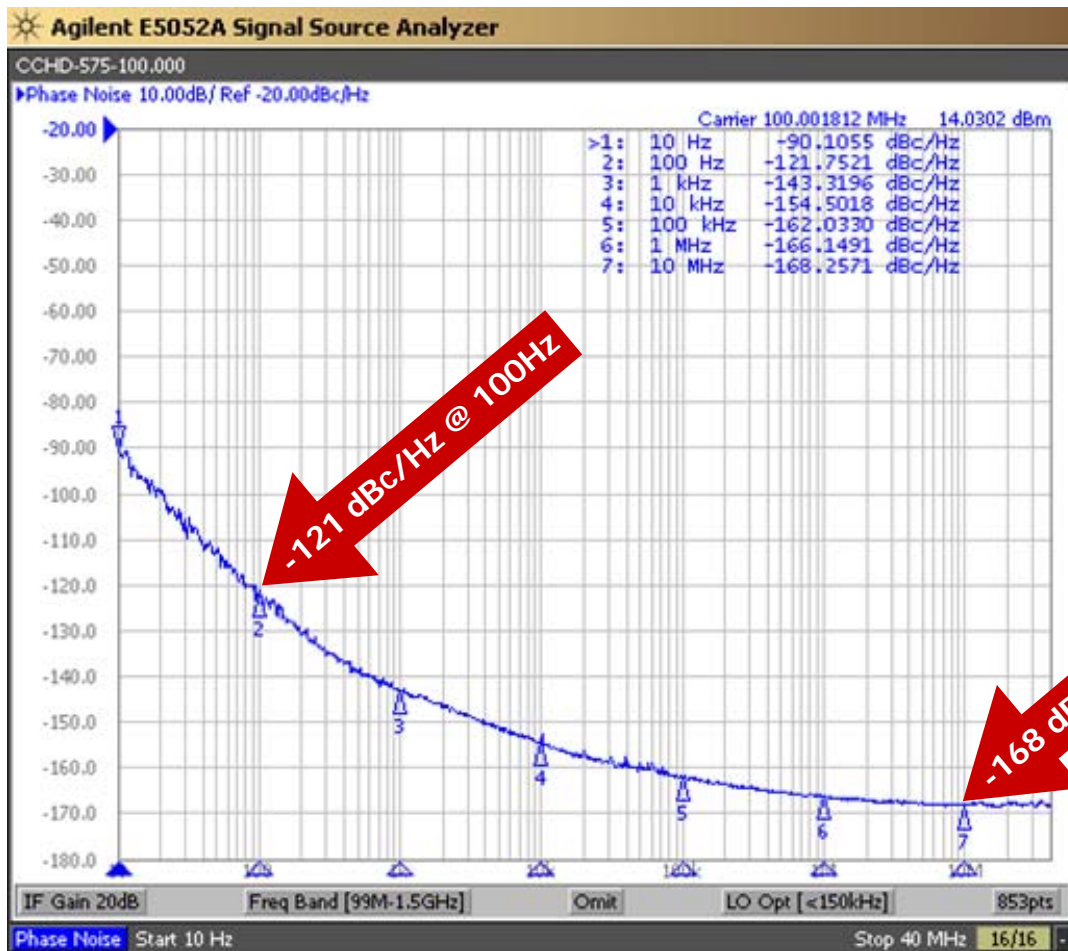


# CCHD-575

## Ultra-Low Phase Noise Oscillator

**CCHD-575 Model**  
5x7.5 mm SMD, 3.3V, HCMOS



Model CCHD-575 is the industry's lowest jitter clock oscillator in a 5x7.5 mm package. It features a typical phase jitter of 82 fSec RMS at 100 MHz. Close-in phase noise is -90 dBc/Hz @ 10 Hz while its floor is at -168 dBc/Hz. This oscillator may be small in size but it packs a punch inside. Its output driver is capable of driving  $\pm 24$ mA. This translates to a rise/fall time of ~600ps at 100 MHz with a 15pF load.

Applications include  
DACs  
ADCs  
Low Phase Signal Sources  
Test and Measurement

Rev: K  
Date: 29-Jun-2015  
Page 1 of 3

# CCHD-575

## Ultra-Low Phase Noise Oscillator



### CCHD-575 Model

5x7.5 mm SMD, 3.3V, HCMOS

<b>Frequency Range:</b>	<b>20 MHz to 130 MHz*</b>
<b>Temperature Range:</b>	<b>0°C to +70°C</b>
	<b>-20°C to +70°C (Option M)</b>
	<b>-40°C to +85°C (Option X)</b>
<b>Storage:</b>	<b>-45°C to 90°C</b>
<b>Input Voltage:</b>	<b>3.3V ±0.3V</b>
<b>Input Current:</b>	<b>15mA Typical, 25mA Max</b>
<b>Output:</b>	<b>HCMOS</b>
	<b>45/55% Max @ 50% Vdd</b>
<b>Symmetry:</b>	<b>45/55% Max @ 50% Vdd</b>
<b>Rise/Fall Time:</b>	<b>2nsec Max @ 20% to 80% Vdd</b>
<b>Logic:</b>	<b>"0" = 10% Vdd Max</b>
	<b>"1" = 90% Vdd Min</b>
<b>Load:</b>	<b>15pF</b>
	<b>Output Current: ±24mA Max</b>
<b>Phase Jitter: (12kHz~80MHz)</b>	<b>82 fSec RMS Typical @ 100 MHz</b>
<b>Phase Noise Typical:</b>	<b>See plot</b>
<b>Phase Noise Floor:</b>	<b>-168 dBc/Hz Typical, -165 dBc/Hz Max</b>
<b>Sub-harmonics:</b>	<b>None</b>
<b>Aging:</b>	<b>&lt;3ppm 1<sup>st</sup> year, &lt;1ppm thereafter</b>



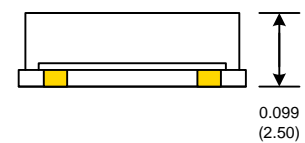
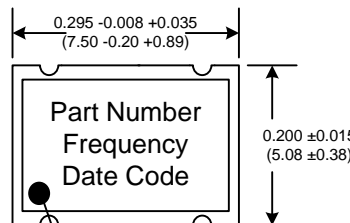
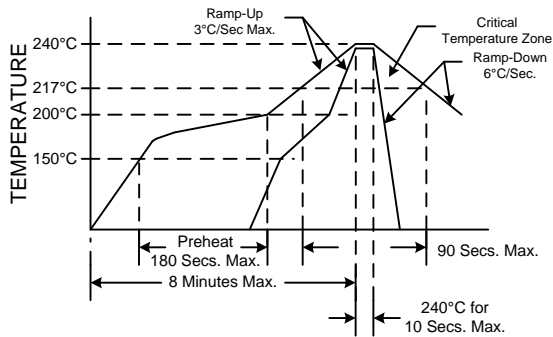
**CCHD-575 Options:**

**Temperature Range:**

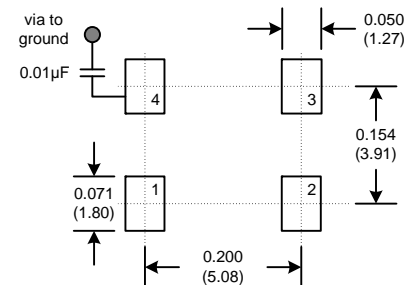
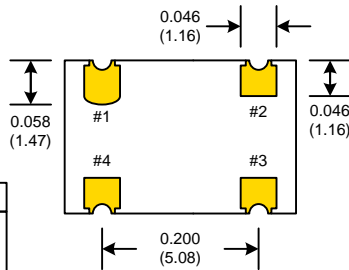
- 0°C to +70°C (±20ppm, ±25ppm, ±50ppm)
- 20°C to +70°C (±25ppm, ±50ppm)
- 40°C to +85°C (±25ppm, ±50ppm)

**Part Number Example:**  
CCHD-575X-25-100.000 = 3.3V, 45/55, -40°C to +85°C (±25ppm), 100 MHz

#### RECOMMENDED REFLOW SOLDERING PROFILE



#### SUGGESTED PAD LAYOUT



*Standard Frequencies (MHz)	
22.579200	49.152
24.576	50.000
27.000	80.000
40.000	100.000
45.158400	125.000

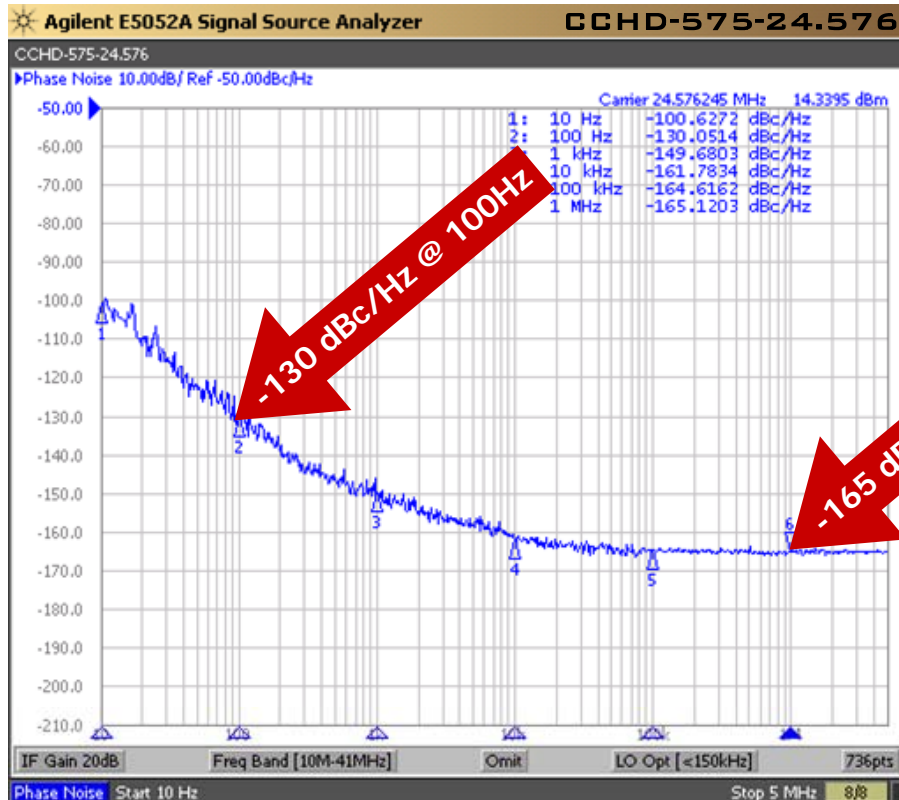
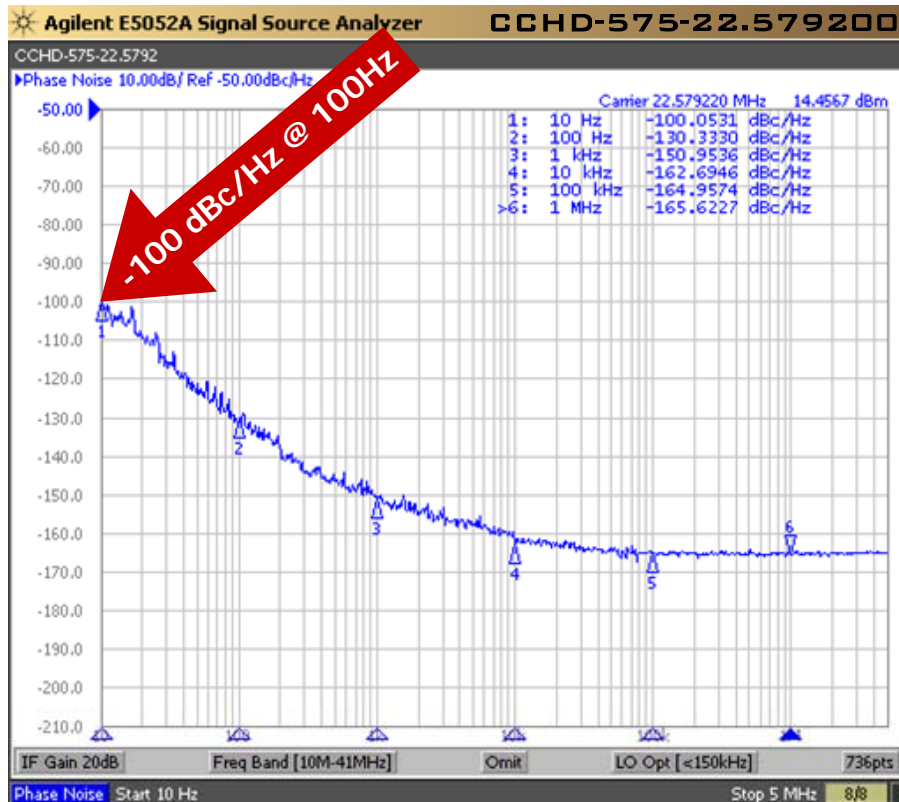
Pad	Connection
1	NC
2	GND
3	Output
4	Vdd

Rev: K  
Date: 29-Jun-2015  
Page 2 of 3

# CCHD-575

## Ultra-Low Phase Noise Oscillator

**CCHD-575 Model**  
5x7.5 mm SMD, 3.3V, HCMOS



Rev: K  
Date: 29-Jun-2015  
Page 3 of 3