



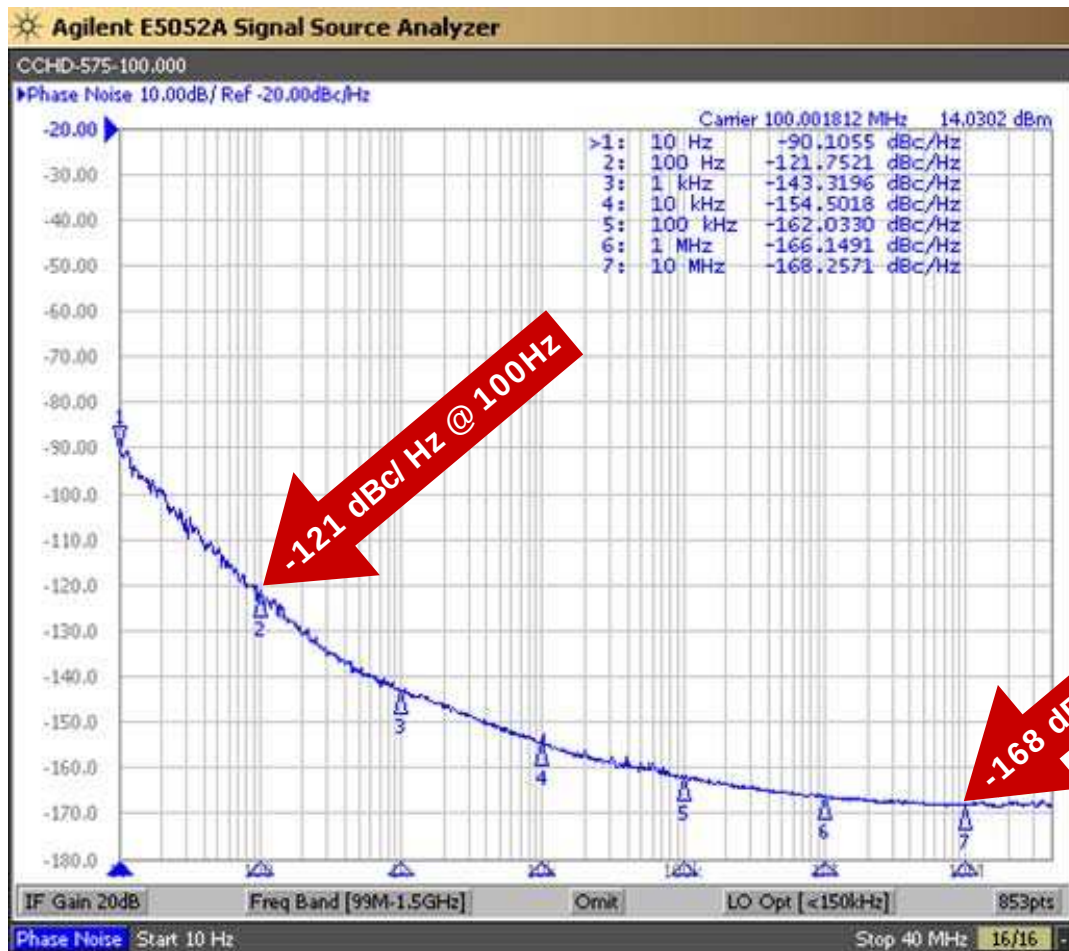
**CRYSTEK**  
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**CCHD-575 Model**  
5×7.5 mm SMD, 3.3V, HCMOS



# CCHD-575

## Ultra-Low Phase Noise Oscillator



Model CCHD-575 is the industry's lowest jitter clock oscillator in a 5×7.5 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  $\pm 24\text{mA}$ . This translates to a rise/fall time of  $\sim 600\text{ps}$  at 100 MHz with a 15pF load.

Applications include  
DACs  
ADCs  
Low Phase Signal Sources  
Test and Measurement

Rev: F  
Date: 09-Jul-12  
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# CCHD-575

## Ultra-Low Phase Noise Oscillator



**CCHD-575 Model**  
5×7.5 mm SMD, 3.3V, HCMOS

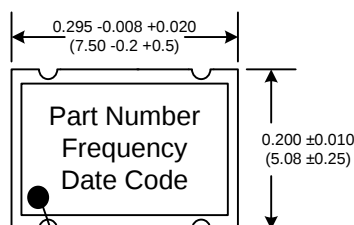
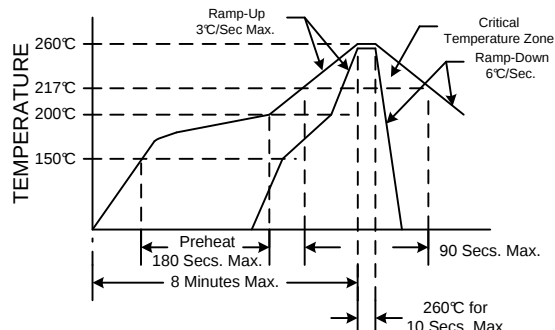
**Frequency Range:** 50 MHz to 130 MHz\*  
**Temperature Range:** 0°C to +70°C  
 (Option M)  
 (Option X)  
**Storage:** -40°C to +85°C  
**Input Voltage:** 3.3V ±0.3V  
**Input Current:** 15mA Typical, 25mA Max  
**Output:** HCMOS  
 Symmetry: 45/55% Max @ 50% Vdd  
 Rise/Fall Time: 2nsec Max @ 20%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



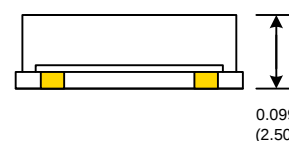
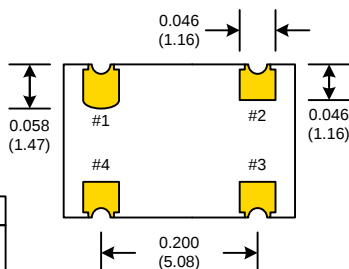
**CCHD-575 Options:**  
**Temperature Range:** 0°C to +70°C (±20ppm, ±25ppm, ±50ppm)  
 -20°C to +70°C (±25ppm, ±50ppm)  
 -40°C to +85°C (±25ppm, ±50ppm)

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

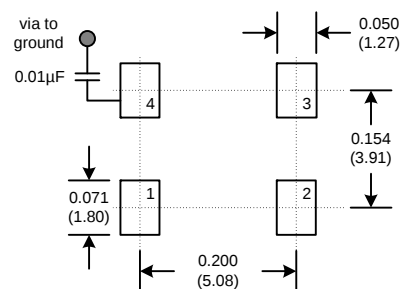
### RECOMMENDED REFLOW SOLDERING PROFILE



Denotes pad 1



### SUGGESTED PAD LAYOUT



### \*Standard Frequencies (MHz)

80.000  
100.000  
125.000

| Pad | Connection |
|-----|------------|
| 1   | NC         |
| 2   | GND        |
| 3   | Output     |
| 4   | Vdd        |

Rev: F

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