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 82fs 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 ±24mA. 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
CCHD-575
Ultra-Low Phase Noise Oscillator

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

**Frequency Range:**
12 MHz to 125 MHz*

**Temperature Range:**
- 0°C to +70°C
- (Option M) -20°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:**
15mA Typical, 25mA Max

**Output:**
HCMOS

- **Symmetry:**
  45/55% Max @ 50% Vdd
- **Rise/Fall Time:**
  2ns Max @ 20% to 80% Vdd
- **Logic:**
  “0” = 10% Vdd Max
  “1” = 90% Vdd Min
- **Load:**
  15pF

**Phase Jitter:** (12kHz~80MHz) 82fs RMS Typical @ 100 MHz

**Phase Noise Typical:**
See plot

**Phase Noise Floor:**
-168 dBc/Hz Typical, -165 dBc/Hz Max

**Sub-harmonics:**
None

**Aging:**
<3ppm 1st 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

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**RECOMMENDED REFLOW SOLDERING PROFILE**

- **Critical Temperature Zone:**
  Ramp-Up 3°C/Sec Max.
  Ramp-Down 6°C/Sec.

- **Preheat:**
  180 Secs. Max.
  8 Minutes Max.

- **240°C for 10 Secs. Max.**

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**SUGGESTED PAD LAYOUT**

- **Pad Finish:** Immersion Gold (ENIG); 5 micro inches maximum

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Crystek Corporation reserves the right to make changes to its products and/or information contained herein without notice.

No liability is assumed as a result of its use or application.
CCHD-575 Model
5x7.5 mm SMD, 3.3V, HCMOS

CCHD-575
Ultra-Low Phase Noise Oscillator

-100 dBc/Hz @ 10Hz
-130 dBc/Hz @ 100Hz
-165 dBc/Hz @ 1MHz

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

CCHD-575-45.158400
-95 dBC/Hz @ 10Hz
-165 dBC/Hz @ 1MHz

CCHD-575-49.152
-95 dBC/Hz @ 10Hz
-166 dBC/Hz @ 1MHz
CCHD-575
Ultra-Low Phase Noise
Oscillator

5×7.5 mm SMD, 3.3V, HCMOS

-119 dBC/Hz @ 100Hz
-165 dBC/Hz @ 10MHz