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We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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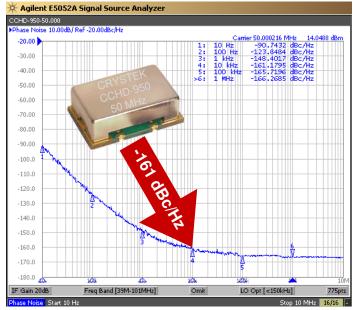
### CCHD-950 Model 9×14 mm SMD, 3.3V, HCMOS

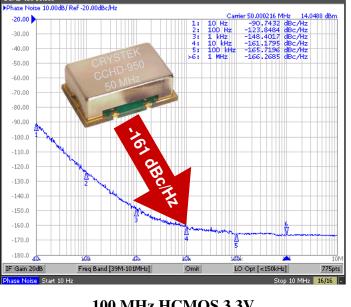
50 MHz HCMOS 3.3V

## **CCHD-950** Ultra-Low Phase Noise Oscillator



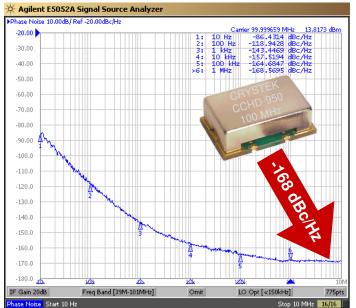
#### 80 MHz HCMOS 3.3V





# Agilent E5052A Signal Source Analyzer -40,00 -50.00 -90,00 -100.0 -120.0 -130.0 -150.0 -160.0

#### **100 MHz HCMOS 3.3V**



**130 MHz HCMOS 3.3V** 



Model CCHD-950 is a 45 MHz to 130 MHz HCMOS Clock Oscillator. High Q crystal and 3<sup>rd</sup> overtone technology provides Ultra-Low Phase Noise and Low-Jitter performance with an HCMOS output. Features include -165 dBc/Hz phase noise floor with 3.3 Vdc input voltage, -40°C to +85°C operating temperature, and 9×14 mm SMT package. The oscillator has no sub-harmonics. Rev: K

> **Applications include High Definition TV, Avionics** Low Phase Signal Sources, and Test and Measurement.

Date: 26-Apr-12 Page 1 of 2



## CCHD-950 Ultra-Low Phase Noise Oscillator

Mechanical:

Solvent Resistance:

Resistance to Soldering Heat:

**Environmental:** 

Solderability:

Vibration:



#### **CCHD-950 Model**

9×14 mm SMD, 3.3V, HCMOS

Frequency Range: 45 MHz to 130 MHz

Temperature Range:  $0^{\circ}\text{C to } +70^{\circ}\text{C}$  (Option M)  $-20^{\circ}\text{C to } +70^{\circ}\text{C}$  (Option X)  $-40^{\circ}\text{C to } +85^{\circ}\text{C}$ Storage:  $-45^{\circ}\text{C to } 90^{\circ}\text{C}$ Input Voltage:  $3.3\text{V } \pm 0.3\text{V}$ 

Input Current: 15mA Typical, 25mA Max

Output: HCMOS

Symmetry: 45/55% Max @ 50% Vdd Rise/Fall Time: 3nsec Max @ 20% to 80% Vdd

**Logic:** "0" = 10% Vdd Max

"1" = 90% Vdd Min

Load: 15pF Output Current: ±24mA Max

Jitter: 12kHz~80MHz 0.5psec Typical, 1psec RMS Max

Phase Noise Typical: See plots

Phase Noise Floor: -165dBc/Hz Typical, -160dBc/Hz Max

**Sub-harmonics:** None

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

**CCHD-950 Options:** 

Temperature Range:  $0^{\circ}$ 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-950X-25-100.000 = 3.3V, 45/55,  $-40^{\circ}C$  to  $+85^{\circ}C$  ( $\pm 25$ ppm), 100 MHz



Shock: MIL-STD-883, Method 2002, Condition B

MIL-STD-883, Method 2007, Condition A

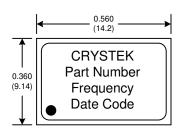
MIL-STD-202, Method 210, Condition I or J

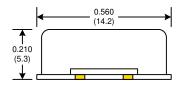
MIL-STD-883, Method 2003

MIL-STD-202. Method 215

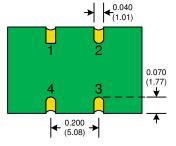
Thermal Shock: MIL-STD-883, Method 1011, Condition A

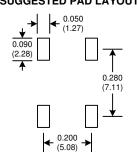
Moisture Resistance: MIL-STD-883, Method 1004



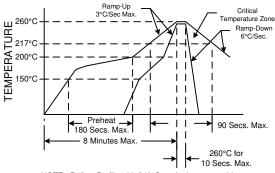


### SUGGESTED PAD LAYOUT





#### RECOMMENDED REFLOW SOLDERING PROFILE



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

Connection
NC
GND
OUT
Vdd

Rev: K
Date: 26-Apr-12
Page 2 of 2

