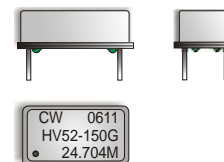


# CRYSTAL CONTROLLED OSCILLATORS

## 14 PIN 5.0V HCMOS VCXO LOW FREQUENCY



### ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	85	°C	
Supply Voltage	(Vcc)	-0.5	-	7	Vdc	
Control Voltage	(Vc)	-0.5	-	7	Vdc	

### MODEL SPECIFICATIONS

#### MODEL NUMBER

TABLE 2.0

MODEL NUMBER	Frequency Stability:					
HV51-xxxG	Frequency Stability:	-25	-	25	ppm	1
HV52-xxxG	Frequency Stability:	-50	-	50	ppm	1
HV53-xxxG	Frequency Stability:	-100	-	100	ppm	1
HV54-xxxG	Frequency Stability:	-20	-	20	ppm	1
HV55-xxxG	Frequency Stability:	-10	-	10	ppm	1
HV56-xxxG	Frequency Stability:	-5	-	5	ppm	1

### Pullability Codes (xxx - Add code to the end of the Model Number)

TABLE 3.0

Pullability Code	Frequency Pullability:					
040	Frequency Pullability:	±20	-	-	ppm	2
100	Frequency Pullability:	±50	-	-	ppm	2
150	Frequency Pullability:	±75	-	-	ppm	2
160	Frequency Pullability:	±80	-	-	ppm	2
200	Frequency Pullability:	±100	-	-	ppm	2
250	Frequency Pullability:	±125	-	-	ppm	2
300	Frequency Pullability:	±150	-	-	ppm	2, 3
350	Frequency Pullability:	±175	-	-	ppm	2, 3
400	Frequency Pullability:	±200	-	-	ppm	2, 3

### OPERATING SPECIFICATIONS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	.080	-	29.999999	MHz	
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	4.75	5.0	5.25	Vdc	
Supply Current	(Icc)	-	-	20	mA	
Jitter (BW=10Hz to 20MHz)		-	-	5	ps rms	
Jitter (BW=12KHz to 20MHz)		-	-	1	ps rms	
SSB Phase Noise at 100Hz offset		-	-90	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-100	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-125	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-135	-	dBc/Hz	

### INPUT CHARACTERISTICS

TABLE 5.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Control Voltage Range	(Vc)	0.5	2.5	4.5	Vdc	
Center Frequency		2.0	2.5	3.0	Vdc	
Monotonic Linearity		-15	-	15	%	
Input Impedance		-	50K	-	Ohm	
Modulation Bandwidth (3dB)		15	-	-	KHz	

### HCMOS OUTPUT CHARACTERISTICS

TABLE 6.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	15	pF	
Voltage (High)	(Voh)	4.5	-	-	Vdc	
(Low)	(Vol)	-	-	0.5	Vdc	
Current (80 KHz to 15.999 MHz) (High)	(Ioh)	-4	-	-	mA	
(80 KHz to 15.999 MHz) (Low)	(Ioh)	-	-	4	mA	
Current (16 MHz to 29.999 MHz) (High)	(Ioh)	-8	-	-	mA	
(16 MHz to 29.999 MHz) (Low)	(Ioh)	-	-	8	mA	
Duty Cycle at 50% of Vcc		45	50	55	%	
Rise / Fall Time 10% to 90%		-	3	5	nS	

### PACKAGE CHARACTERISTICS

TABLE 7.0

Package	Hermetically sealed, metal package.
---------	-------------------------------------

HV51-xxxG Series  
HV52-xxxG Series  
HV53-xxxG Series  
HV54-xxxG Series  
HV55-xxxG Series  
HV56-xxxG Series

### DESCRIPTION

The Connor-Winfield HV5x-xxxG series is a 5.0V HCMOS, 14 Pin DIP hermetically sealed, Voltage Controlled Crystal Oscillator (VCXO). Based on a fundamental crystal design the HV5x-xxxG is designed for phased lock loop applications requiring low jitter and tight frequency stability.

### FEATURES

5.0V OPERATION  
FREQUENCY RANGE:  
80 KHz to 29.999 MHz  
FREQUENCY STABILITY  
HV51-xxxG SERIES ±25PPM  
HV52-xxxG SERIES ±50PPM  
HV53-xxxG SERIES ±100PPM  
HV54-xxxG SERIES ±20PPM  
HV55-xxxG SERIES ±10PPM  
HV56-xxxG SERIES ±5PPM  
TEMPERATURE RANGE: 0 to 70°C  
LOW JITTER <1ps RMS  
HERMETICALLY SEALED PACKAGE  
RoHS COMPLIANT / LEAD FREE

### ORDERING INFORMATION

HV52-150G - 24.704MHz

VCXO  
SERIES

CENTER  
FREQUENCY

Specifications subject to change without notice.

PRODUCT DATA SHEET

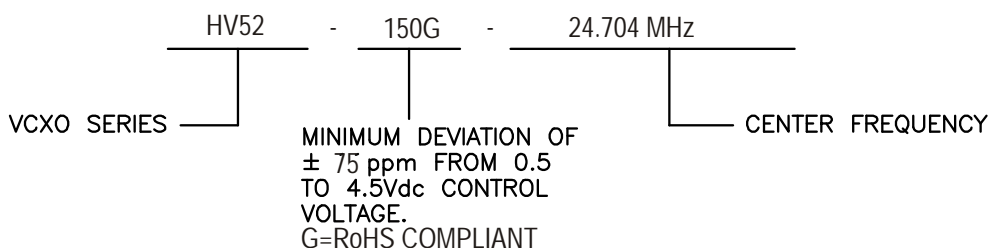
CRYSTAL CONTROLLED OSCILLATORS

Note:

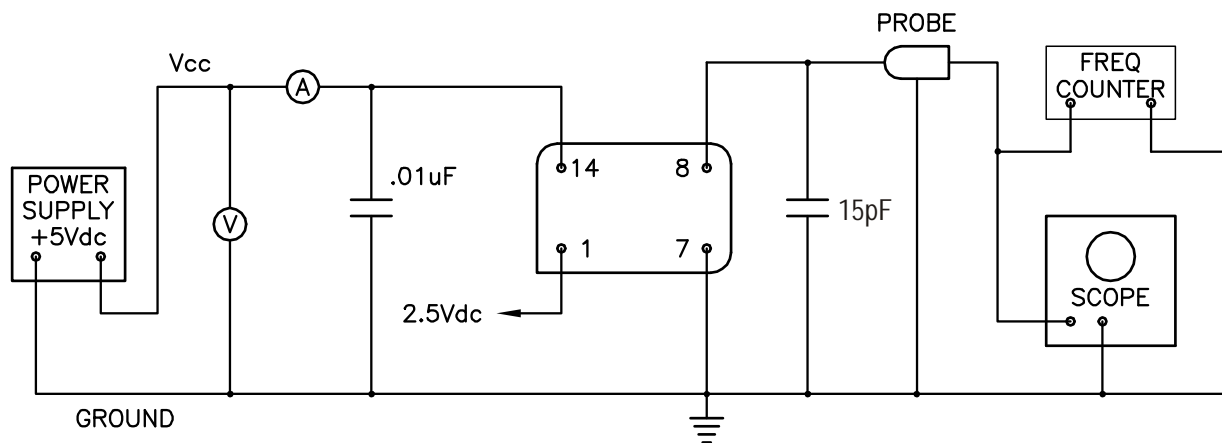
- 1) Frequency stability vs. change in temperature, referenced to frequency measured at 25°C with control voltage @ 2.50Vdc.
- 2) Referenced to Fo @ 25°C. Positive Slope.

The wider frequency pullabilities are not available with models HV55 or HV56 series.

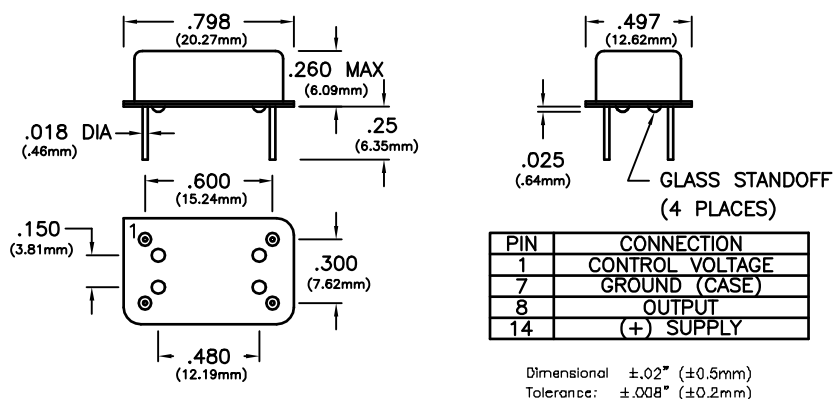
Example Part Number



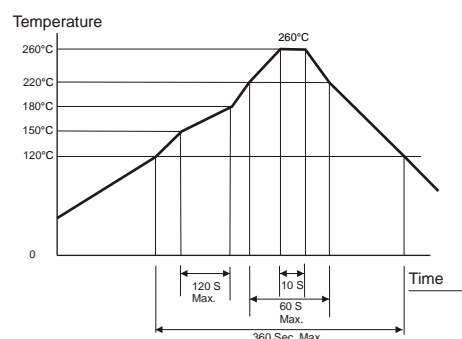
Test Circuit



Package Outline and Pin Connections



Solder Profile



Specifications subject to change without notice.