

# LVC MOS VCXO Specification Model V802

# CONNOR WINFIELD



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## Description:

The Connor-Winfield, RoHS compliant, V802 is a 3.3V Voltage Controlled Crystal Oscillator (VCXO) with LVC MOS output and enable/disable function. The V802 is designed for use with applications utilizing a PLL system requiring low jitter and tight frequency stability. The surface mount package is designed for high-density mounting and is optimum for mass production.



## Features:

3.3 Vdc Operation  
Absolute Pull Range (APR):  $\pm 50$  ppm  
Temperature Range: 0 to 70°C  
Low Jitter: <0.5ps RMS  
LVC MOS Output  
5x7 mm SMT Package  
Tri-State Enable/Disable, Pad 2  
Tape and Reel Packaging  
RoHS Compliant / Lead Free

## Absolute Maximum Ratings

Parameter	Minimum	Nominal	Maximum	Units	Notes
Storage Temperature	-40	-	85	°C	
Supply Voltage (Vcc)	-0.5	-	4.6	Vdc	
Control Voltage (Vc)	-0.5	-	Vcc + 0.5	Vdc	

## Operating Specifications

Parameter	Minimum	Nominal	Maximum	Units	Notes
Center Frequency: (Fo)	65	-	130	MHz	
Operating Temp Range:	0	-	70	°C	
Supply Voltage: (Vcc)	3.135	3.3	3.465	Vdc	
Supply Current : (Icc)	-	-	40	mA	
Jitter:					
Period Jitter	-	3.0	5.0	ps RMS	
Integrated Phase Jitter	-	0.5	1.0	ps RMS	1
Typical SSB Phase Noise @ 100 MHz					
@ 10 Hz offset	-	-55	-	dBc/Hz	
@ 100 Hz offset	-	-85	-	dBc/Hz	
@ 1 KHz offset	-	-115	-	dBc/Hz	
@ 10 KHz offset	-	-135	-	dBc/Hz	
@ 100 KHz offset	-	-150	-	dBc/Hz	
@ 1 MHz offset	-	-150	-	dBc/Hz	
Start-Up Time	-	-	10	ms	

## Input Characteristics

Parameter	Minimum	Nominal	Maximum	Units	Notes
Control Voltage Range (Vc)	0.3	1.65	3.0	Vdc	
Absolute Pull Range (APR)	$\pm 50$	-	-	ppm	2
Monotonic Linearity	-10	-	10	%	
DC Input Impedance	-	60K	-	Ohm	3
Modulation Bandwidth (3dB)	10	-	-	KHz	
Enable Input Voltage (High) (Vih)	2.4	-	-	V	4
Disable Input Voltage (Low) (Vil)	-	-	0.4	V	4

## LVC MOS Output Characteristics

Parameter	Minimum	Nominal	Maximum	Units	Notes
Load	-	15	-	pF	
Voltage (High) Voh	2.4	-	-	V	
(Low) Vol	-	-	0.4	V	
Duty Cycle at 50% Level	45	50	55	%	
Rise / Fall Time: 20% to 80%	-	-	2	ns	

## Package Characteristics

Package Hermetically sealed ceramic surface mount package with case ground metal cover

### Notes:

1. BW= 12 KHz to 20 MHz.
2. Absolute Pull Range (APR) is the minimum guaranteed pull range of the VCXO under all conditions over lifetime operation including calibration @ 25°C, frequency stability vs. the change in temperature, frequency vs. change in supply voltage, frequency vs. change in load, shock and vibration and 10 years aging. The APR is referenced to (Fo). Positive transfer function.
3. Measured from pin 1 to ground.
4. Oscillator output is enabled with no connection on pad 2.

Specifications subject to change without notice. All dimensions in inches. © Copyright 2011 The Connor-Winfield Corporation



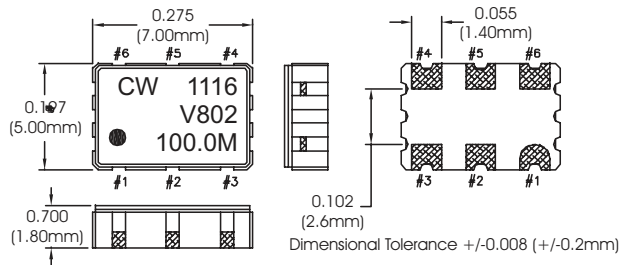
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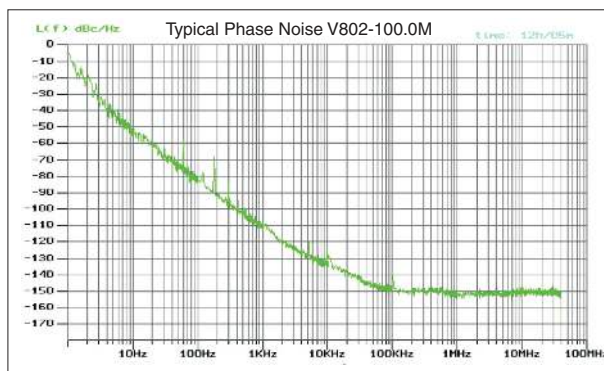
## Environmental Characteristics

Vibration: Vibration per Mil Std 883E Method 2007.3 Test Condition A.  
Shock: Mechanical Shock per Mil Std 883E Method 2002.4 Test Condition B.  
Soldering Process: RoHS compliant lead free. See soldering profile on page 2.

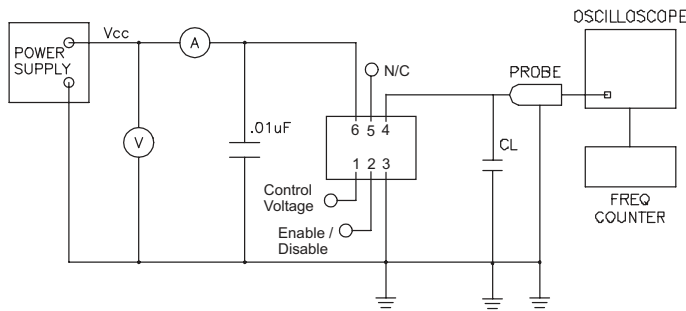
## Package Layout



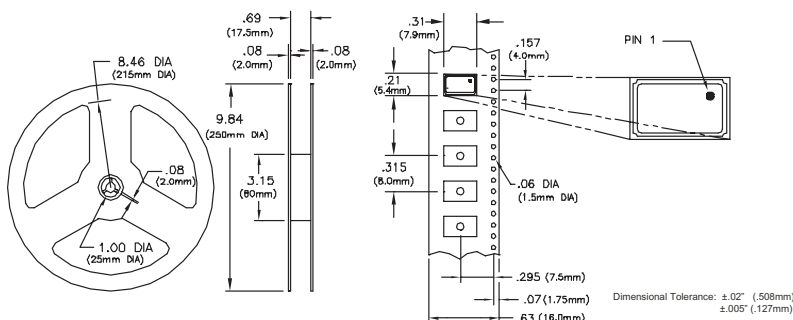
## Typical Phase Noise



## Test Circuit



## Tape and Reel Dimensions

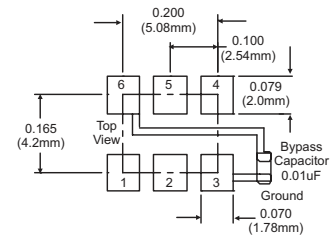


MEETS EIA-481A AND EIAJ-1009B  
2,000 PCS/REEL

## Ordering Information

V802 - 100.0M  
VCXO SERIES CENTER FREQUENCY

## Suggested Pad Layout



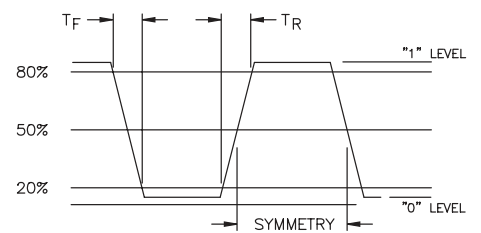
## Pad Connections

- 1: Control Voltage (Vc)
- 2: Enable / Disable
- 3: Ground
- 4: Output Q
- 5: N/C
- 6: Supply Voltage (Vcc)

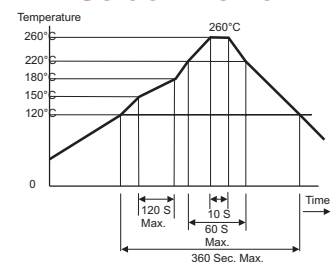
## Enable / Disable Function

Function: Outputs  
High or Open Enabled  
Low Disabled (High Impedance)

## Output Waveform



## Solder Profile



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