



OH020-61003CV-010.0M 20x20mm VCOCXO

VCOCXO

CONNOR WINFIELD



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Description:

The Connor-Winfield OH020-61003CV-010.0M is a 20x20mm through-hole VCOCXO in a 5-pin metal package.



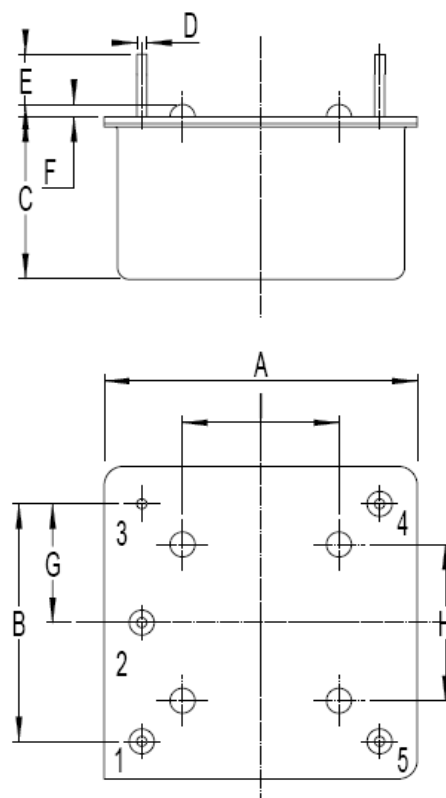
Features:

- VCOCXO
- 3.3Vdc Operation
- 20 x 20mm Metal Package
- Frequency Stability ± 10 ppb
- Temperature Range -40°C to 85°C
- LVC MOS Output
- RoHS Compliant / Lead Free RoHS

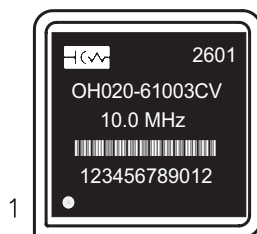
Package Dimensions

Symbol	Dimensions (mm)	
	Min	Max
A		20.6
B	14.74	15.74
C		12
D	0.4	0.6
E	4.0	5.0
F	0.5	0.7
G	7.52	7.72
H	10.1 nominal	
I	10.1 nominal	

Package Outline



Marking Configuration



Date Code (YYWW)
Model Number
Output Frequency
Serial # Barcode
Serial Number

Pin Connections

- 1: Supply Voltage (Vdd)
- 2: Output
- 3: Ground
- 4: Voltage Control
- 5: N/C

Ordering Information

OH020-61003CV-010.0M





Absolute Maximum Ratings

Parameter	Minimum	Nominal	Maximum	Units	Notes
Storage Temperature	-40	-	105	°C	
Supply Voltage (Vdd)	-0.5	-	4.5	Vdc	
Control Voltage (Vc)	-0.5	-	4.5	Vdc	

Operating Specifications

Parameter	Minimum	Nominal	Maximum	Units	Notes
Center Frequency: (Fo)	-	10	-	MHz	
Frequency Calibration	-100	-	100	ppb	1
Frequency Stability vs Temperature	-10	-	10	ppb	2
vs. Supply Voltage Change	-0.5	-	0.5	ppb	Vcc ±5%
vs. Load Change	-0.5	-	0.5	ppb	Load ±5%
vs. Aging per day	-0.5	-	0.5	ppb	3
vs. Aging 1st Year	-50	-	50	ppb	
vs Aging 10 Years	-0.5	-	0.5	ppm	
Operating Temperature Range	-40	-	85	°C	4
Warm-up Time at 25°C	-	-	5	Minutes	5
Short Term Stability (ADEV at 1s)	-	-	1.0E-11		6

Phase Noise

Parameter	Minimum	Nominal	Maximum	Units	Notes
@ 1Hz offset	-	-	-95	dBc/Hz	
@ 10Hz offset	-	-	-120	dBc/Hz	
@ 100Hz offset	-	-	-140	dBc/Hz	
@ 1KHz offset	-	-	-150	dBc/Hz	
@ 10KHz offset	-	-	-155	dBc/Hz	
@ 100KHz offset	-	-	-150	dBc/Hz	

Supply Voltage (Vdd)

Parameter	Minimum	Nominal	Maximum	Units	Notes
Supply Voltage:	3.13	3.30	3.47	Vdc	
Power Consumption					
Turn On	-	-	4.0	W	
Steady State at 25°C	-	-	1.5	W	

Input Characteristics - Voltage Control (Vc)

Parameter	Minimum	Nominal	Maximum	Units	Notes
Tuning Range	±0.5	-	±1.0	ppm	
Linearity	-	-	10	%	
Control Voltage Range	0.0	1.65	3.3	Vdc	
Tuning Slope		Positive			
Linearity	-	-	10	%	
Input Impedance	100K	-	-	Ohms	

CMOS Output Characteristics

Parameter	Minimum	Nominal	Maximum	Units	Notes
Load	-	15	-	pF	
Output Voltage: High (Voh)	3.0	-	-	V	
Low (Vol)	-	-	0.4	V	
Output Current: High (Ioh)	-4	-	-	mA	
Low (Iol)	-	-	4	mA	
Duty Cycle at 50% of Vcc	45	50	55	%	
Rise / Fall Time: 10% to 90%	-	-	6	ns	

Package Characteristics

OH020-Series Package	Hermetically sealed, resistive welded package with grounded case
Moisture Sensitivity Level	MSL-1.
ESD Level	HBM 2kV

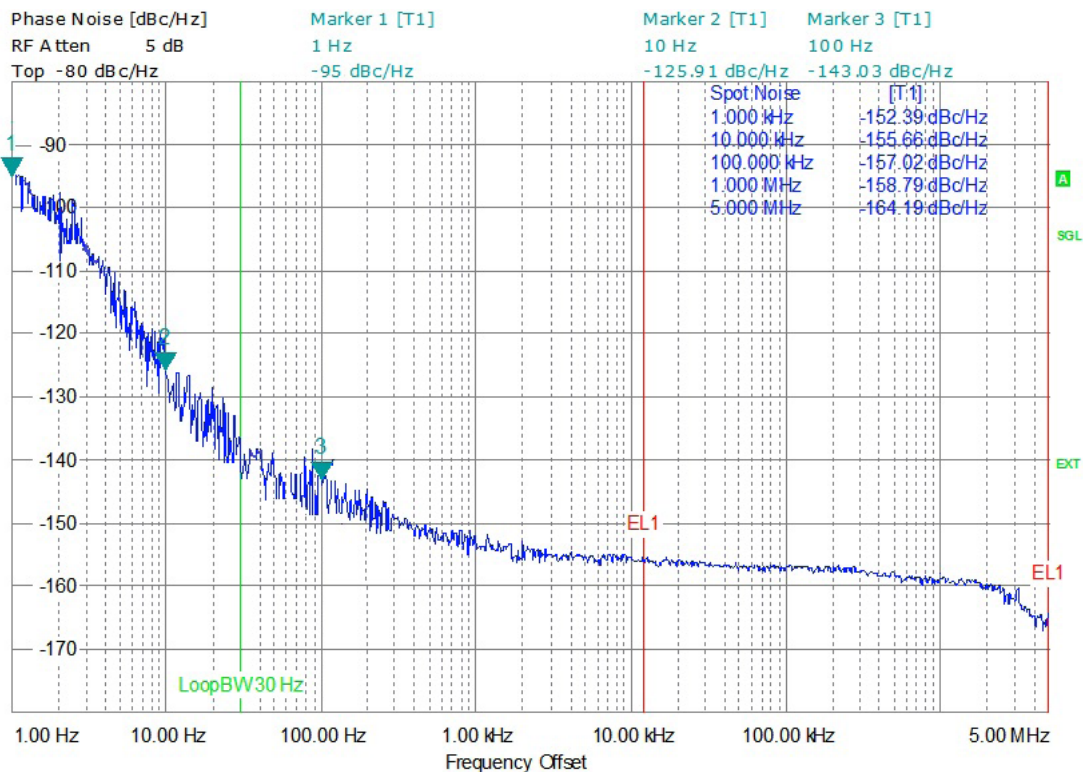
Environmental Characteristics

Shock	500 G's 1ms, Halfsine, 3 shocks per direction, per MIL-STD 202F, Method 213B Test Condition D.
Sinusoidal Vibration	0.06" D.A. or 10G's Peak, 10 to 500 Hz, per MIL-STD-202F, Method 204D, Test Condition A.
Random Vibration	5.35 G's rms. 20 to 2000 Hz per MIL-STD-202F, Method 214, Test Condition 1A, 15 minutes each axis.
Moisture	10 cycles, 95% RH, Per MIL-STD-202F, Method 112.
Marking Permanency	Per MIL-STD-202F, Method 215J.
Attachment Method PCB	Through hole mounted. See note 7.
Resistance to Solder Heat	Per MIL-STD-202F, Method 210, Condition E.

Notes:

1. At time of shipment after 60 minutes of operation @ 25°C with nominal control voltage and supply voltage values.
2. Frequency stability vs. change in temperature $[\pm(F_{max}-F_{min})/(2 \cdot F_0)]$.
3. At time of shipment after 48 hours of operation.
4. Other temperature ranges available upon request.
5. Measured at 25°C, the frequency observed after 5min will be within ± 100 ppb of the frequency observed after 60 minutes.
6. The part is shielded from airflow during this measurement.
7. Because of the high precision characteristics of this device, low ambient temperature assembly methods such as manual soldering, selective soldering, or wave soldering are recommended.

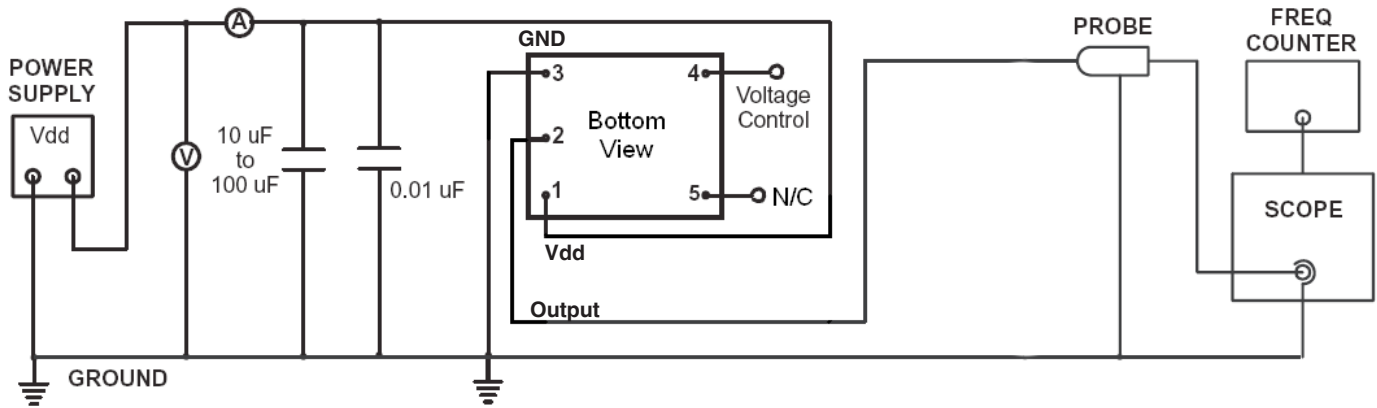
Typical Phase Noise



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Test Circuit



Revision History

Revision	Date	Description
00	11/19/21	New issue
01	04/17/24	Add MSL-1 and Digi-Key availability
02	12/30/25	Update 10yr aging, abs max voltages, PCB attach methods, and add ESD rating

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