

Helping Customers Innovate, Improve & Grow



OX-080

Features

- Ultra Low g-Sensitivity
- Low Phase Noise
- High Stability
- Frequency Range: 8 MHz to 15 MHz
- Standard Frequency 10 MHz
- Vibration Compensation

Applications

- Military Avionics
- Airborne Radar
- Test Equipment
- Frequency Synthesizers
- Position Location
- Satellite Communications

Performance Specifications

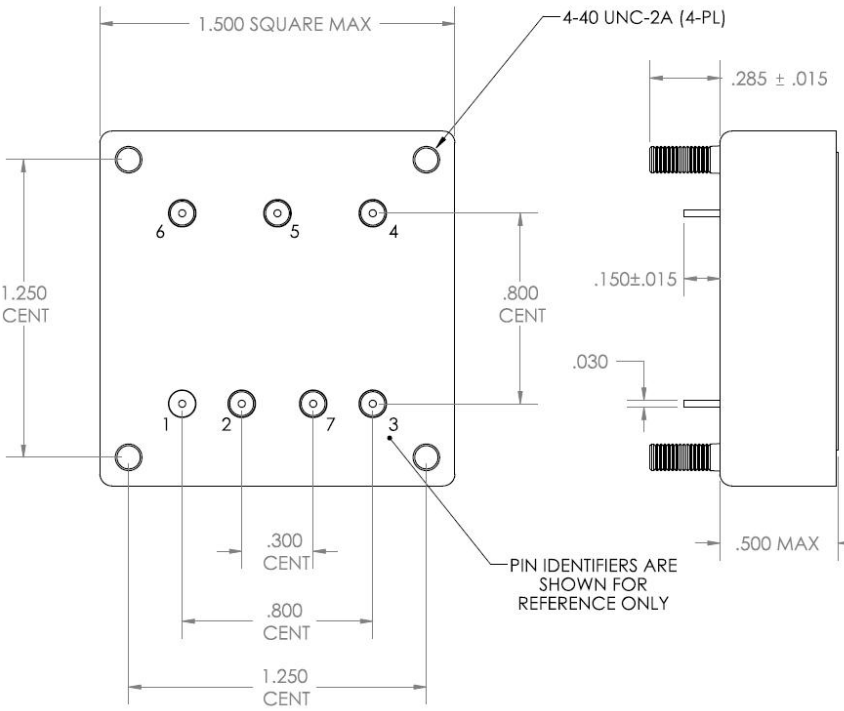
Parameter	Min	Typ	Max	Units	Condition
Available Frequencies					
Frequency Range	8		15	MHz	
G-Sensitivity Performance					
Standard crystal			1	ppb/g	
G Sensitivity w\ Low g-Crystal			0.2	ppb/g	
G Sensitivity w\ Low g-Crystal & Vibration compensation			0.02	ppb/g	Degrades to 0.2 ppb/g above 250 Hz
(No mechanical resonances out to 2KHz)					G sensitivity specified per axis
For oscillators with 0.1 ppb/g out to 2 KHz contact factory.					
Frequency Stabilities ¹ (Stabilities listed for 10 MHz. For Stabilities above 10 MHz values may degrade. Please contact factory.)					
vs. Operating Temperature Range (referenced to +25°C)	-30 -20 -10 -5		+30 +20 +10 +5	ppb ppb ppb ppb	-40... +85°C -40... +70°C -20... +70°C 0... +70°C
Initial Tolerance	-50		+50	ppb	at time of shipment, nominal EFC
vs. Supply Voltage Change	-2.0		+2.0	ppb	Vs ± 5%
vs. Load Change	-2.0		+2.0	ppb	Load ± 5%
vs. Aging / Daily	-0.5		+0.5	ppb	after 72 hours of operation
vs. Aging / 1 st Year	-40		+40	ppb	after 72 hours of operation
vs. Aging / Year (following years)	-30		+30	ppb	
Retrace ²	-20		+20	ppb	

Performance Specifications

Parameter	Min	Typ	Max	Units	Condition
Supply Voltage (Vs)					
Supply voltage	11.4	12.0	12.6	VDC	
Oven Power Consumption			10.0	Watts	during warm-up all temperatures
			3.0	Watts	steady state @ +25°C
			7.0	Watts	steady state @ -40°C
			1.0	Watts	steady state @ +70°C
RF Output					
Start Time		1	2	s	time required to achieve 90% of amplitude
Signal	Sinewave				
Load		50		Ohm	
Output Power	+6.0	+7.0	+8.0	dBm	
Harmonics			-30	dBc	
Frequency Tuning (EFC)					
Tuning Range	±0.5	±0.8	±2.0	ppm	Electronic frequency control
Linearity			20	%	
Tuning Slope	Positive				
Control Voltage Range	0.0	+4.0	+8.0	VDC	
Input Impredance	20			kOhm	
Modulation Bandwidth	150			Hz	
Phase Noise					
Phase Noise ³ standard(@ 10 MHZ) (under static conditions - no vibration)		-100	-95	dBc/Hz	1 Hz
		-130	-127	dBc/Hz	10 Hz
		-155	-152	dBc/Hz	100 Hz
		-166	-163	dBc/Hz	1 KHz
		-168	-165	dBc/Hz	10 KHz

Parameter	Min	Typ	Max	Units	Condition
Additional Parameters¹					
Weight			100	g	
Absolute Maximum Ratings					
Supply voltage (Vs)			28	V	
Output Load	25		open	ohm	
Operable Temperature Range	-55		+85	°C	
Environmental Specifications					
Shock (Operating)	MIL-STD-202, Method 213, Condition J, 30G, 11ms, half sine				
Shock (Endurance)	Mil-STD-202, Method 213, Condition C, 100G, 6ms, half sine				
Sine Vibration (Operating)	Mil-STD-202, Method 204, Condition C, 10 G				
Sine Vibration (Endurance)	Mil-STD-202, Method 204, Condition D, 20 G				
Random Vibration (Operating)	Mil-STD-202, Method 214, Condition I-C, 9.26 Grms (without vibe comp) Mil-STD-202, Method 214, Condition I-A, 5.35 Grms (with vibe comp)				
Random Vibration (Endurance)	Mil-STD-202, Method 214, Condition I-H, 29.28 Grms				
Seal	Mil-STD-202, Method 112, Condition D				
Humidity	MIL-STD-202, Method 103, Condition B, 90% rh				
Altitude	MIL-STD-202, Method 105, sea level to 30,000 ft				
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition A,B,C				
RoHS	not RoHS compliant				
Terminal Strength	MIL-STD-202, Method 211, Condition C (5 bends at 45°, 2 lbs)				
Moisture Sensitivity Level	1				
Storage Temperature Range	-55		+125	°C	

Outline Drawing / Enclosure

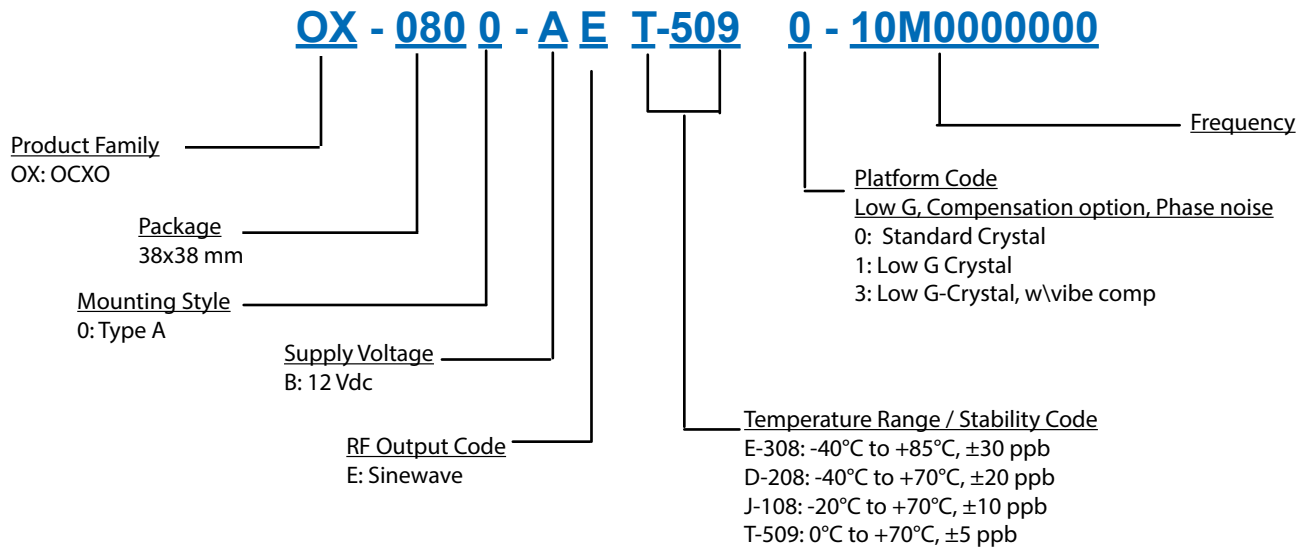


Dimensions in inches

Package configuration A		
ordering code	Height "H"	
0	0.50	

Pin Connections	
1	Ground (Case)
2	RF Output
3	Electronic Frequency Control (EFC)
4	Supply Voltage
5	Microsemi Internal Use Only / NC
6	Supply Voltage
7	Microsemi Internal Use Only / NC

Ordering Information⁴



Additional Ordering Options

Additional ordering options available include custom temperature ranges, custom temperature stabilities, custom phase noise requirements, custom height, custom supply voltage, and improved g-sensitivity. These modifications require a custom dash number - please contact the factory for additional information.

Design Tools

Microsemi stocks the following items for small orders and prototype development:
None
Microsemi stocks the following evaluation board for this product:
None
Application Notes:
None

Notes:

1. Unless otherwise stated, all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, and temperature (25°C).
2. Retrace is defined as the frequency difference between the end of two 24 hour on power periods with a 24 hour off period in between while at a constant temperature.
3. Phase noise degrades with increasing output frequency.
4. Not all options and codes available at all frequencies.



Microsemi Headquarters
One Enterprise, Aliso Viejo, CA 92656 USA
Within the USA: +1 (800) 713-4113
Outside the USA: +1 (949) 380-6100
Sales: +1 (949) 380-6136
Fax: +1 (949) 215-4996
email: sales.support@microsemi.com
www.microsemi.com

Microsemi, a wholly owned subsidiary of Microchip Technology Inc. (Nasdaq: MCHP), offers a comprehensive portfolio of semiconductor and system solutions for aerospace & defense, communications, data center and industrial markets. Products include high-performance and radiation-hardened analog mixed-signal integrated circuits, FPGAs, SoCs and ASICs; power management products; timing and synchronization devices and precise time solutions, setting the world's standard for time; voice processing devices; RF solutions; discrete components; enterprise storage and communication solutions, security technologies and scalable anti-tamper products; Ethernet solutions; Power-over-Ethernet ICs and midspans; as well as custom design capabilities and services. Learn more at www.microsemi.com.

Microsemi makes no warranty, representation, or guarantee regarding the information contained herein or the suitability of its products and services for any particular purpose, nor does Microsemi assume any liability whatsoever arising out of the application or use of any product or circuit. The products sold hereunder and any other products sold by Microsemi have been subject to limited testing and should not be used in conjunction with mission-critical equipment or applications. Any performance specifications are believed to be reliable but are not verified, and Buyer must conduct and complete all performance and other testing of the products, alone and together with, or installed in, any end-products. Buyer shall not rely on any data and performance specifications or parameters provided by Microsemi. It is the Buyer's responsibility to independently determine suitability of any products and to test and verify the same. The information provided by Microsemi hereunder is provided "as is, where is" and with all faults, and the entire risk associated with such information is entirely with the Buyer. Microsemi does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other IP rights, whether with regard to such information itself or anything described by such information. Information provided in this document is proprietary to Microsemi, and Microsemi reserves the right to make any changes to the information in this document or to any products and services at any time without notice.

©2018 Microsemi, a wholly owned subsidiary of Microchip Technology Inc. All rights reserved. Microsemi and the Microsemi logo are registered trademarks of Microsemi Corporation. All other trademarks and service marks are the property of their respective owners.