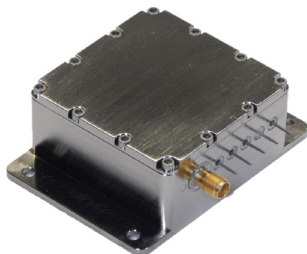


Helping Customers Innovate, Improve & Grow



OX-048

Features

- Ultra Low g-Sensitivity
- Low Phase Noise
- Very High Frequency
- Frequency Range: 80 MHz to 300 MHz
- Standard Frequencies: 100 MHz & 300 MHz
- Vibration Compensation

Applications

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

Performance Specifications

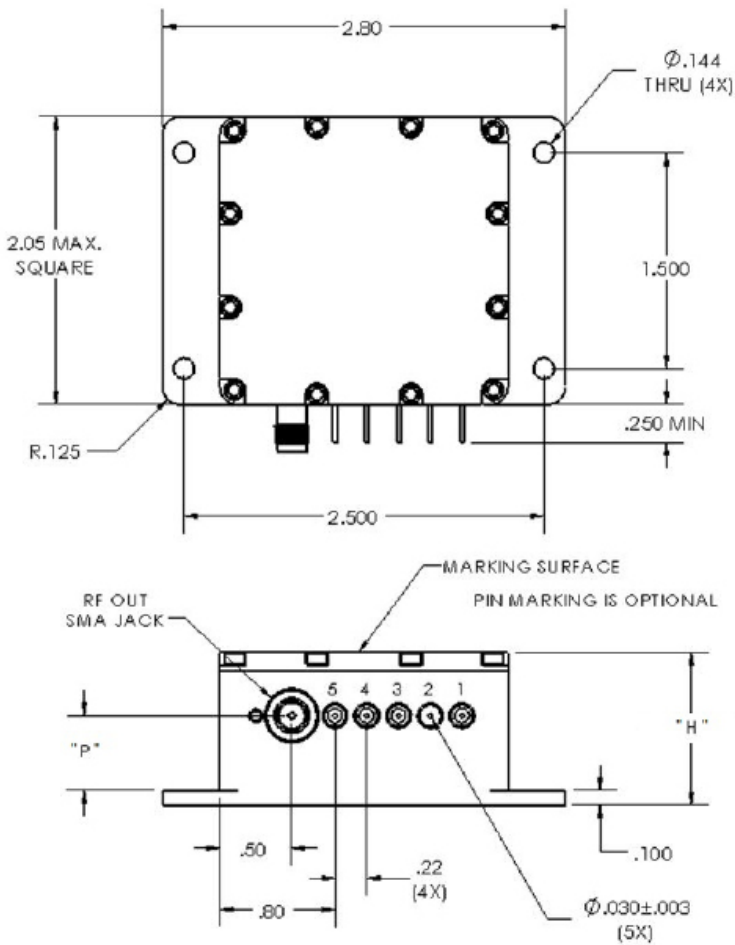
Parameter	Min	Typ	Max	Units	Condition
Available Frequencies					
Frequency Range	80	100	300	MHz	
G-Sensitivity Performance					
Standard crystal			1.5	ppb/g	
G Sensitivity w\ Low g-Crystal			0.3	ppb/g	
G Sensitivity w\ Low g-Crystal & Vibration compensation			0.05 0.3	ppb/g ppb/g	Per axis, 10 Hz - 250 Hz Per axis, 250 Hz - 2 kHz
					No mechanical resonances out to 2 kHz
Frequency Stabilities ¹ (Stabilities listed for 100 MHz. For Stabilities other than 100 MHz, please contact factory.)					
Initial Tolerance	-250		+250	ppb	at time of shipment, nominal EFC @ +25°C
vs. Operating Temperature Range (referenced to +25°C)	-150 -100		+150 +100	ppb ppb	-40... +85°C -20... +70°C
vs. Supply Voltage Change	-15		+15	ppb	Vs ± 5%, +25°C
vs. Load Change	-10		+10	ppb	Load ± 5%, +25°C
vs. Aging / Daily	-5		+5	ppb	after 30 days operation, +25°C
vs. Aging / 1 st Year	-200		+200	ppb	after 30 days operation, +25°C
vs. Aging / 10 Years	-1.5		+1.5	ppm	after 30 days operation, +25°C
Retrace ²	-200		+200	ppb	
Warm-up Time			5	minutes	< ±100ppb of final frequency (2 hour reading) @ +25°C

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
			4.0	Watts	steady state @ +25°C
			7.5	Watts	steady state @ -40°C
			1.0	Watts	steady state @ +85°C
RF Output					
Start Time		1	2	s	time required to achieve 90% of amplitude
Signal	Sinewave				
Load		50		Ohm	
Output Power @ 100 MHz	+7.0	+10.0	+13.0	dBm	-40... +85°C
Output Power @ 300 MHz	+5.0	+7.0	+9.0	dBm	
Harmonics			-30	dBc	+25°C
Frequency Tuning (EFC)					
Tuning Range	±2.0		±4.0	ppm	Sufficient to tune to nominal frequency for 10 years
Linearity			10	%	
Tuning Slope	Positive				
Control Voltage Range	0.0	+5.0	+10.0	VDC	
Input Impedance	15			kOhm	
Modulation Bandwidth	150			Hz	
Phase Noise					
Phase Noise ³ (@ 100 MHz) (under static conditions - no vibration) EFC @ nominal voltage			-100	dBc/Hz	10 Hz
			-130	dBc/Hz	100 Hz
			-154	dBc/Hz	1 kHz
			-167	dBc/Hz	10 kHz
			-173	dBc/Hz	100 kHz
Phase Noise ³ (@ 300 MHz) (under static conditions - no vibration) EFC @ nominal voltage			-90	dBc/Hz	10 Hz
			-120	dBc/Hz	100 Hz
			-140	dBc/Hz	1 kHz
			-147	dBc/Hz	10 kHz
			-150	dBc/Hz	100 kHz

Parameter	Min	Typ	Max	Units	Condition
Additional Parameters¹					
Weight			150	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				
Random Vibration (Operating)	Mil-STD-202, Method 214, Condition I-C, 9.26 Grms, 3-5min/axis (without vibe comp) Mil-STD-202, Method 214, Condition I-A, 5.35 Grms, 3-5min/axis (with vibe comp)				
Random Vibration (Endurance)	Mil-STD-202, Method 214, Condition I-D, 11.95 Grms, 3hrs/axis				
Seal	Nonhermetic (Mil-STD-202, Method 112, Condition D available only as custom part number - please consult factory)				
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

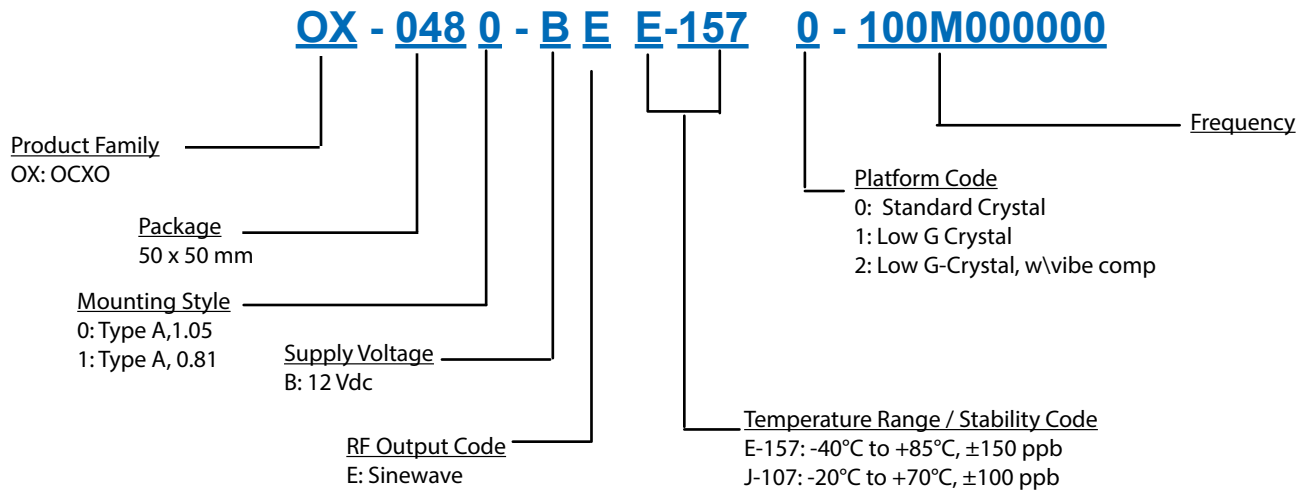


Dimensions in inches

Package configuration A		
ordering code	Height "H"	Pin Height "P"
0	1.060 +/- 0.020	0.52 +/- 0.010
1	0.810 +/- 0.020	0.40 +/- 0.010

Pin Connections	
1	Supply Voltage
2	Ground (Case)
3	Electronic Frequency Control (EFC)
4	Vectron Internal Use Only / NC
5	Vectron 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, hermetic option, and improved g-sensitivity. These modifications require a custom dash number - please contact the factory for additional information.

Design Tools

Vectron stocks the following items for small orders and prototype development:
OX-0480-BEE-1572-100M000000
Vectron 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.

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