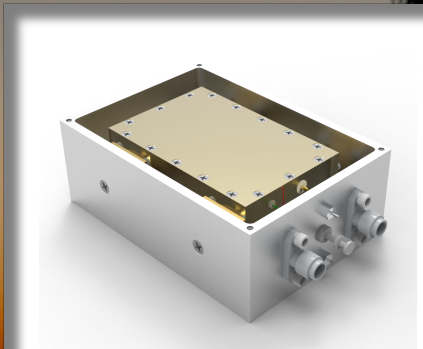


Poseidon 4 – LG G-Compensated OCXO



FEATURES

- ✓ 0.010 PPB/G ultra low -g acceleration sensitivity
- ✓ -90 dBc/Hz phase noise @ 10Hz
- ✓ 10 MHz phase lock loop
- ✓ ruggedized packaging
- ✓ heavy duty isolation
- ✓ 65 Hz shear and axial mode isolation

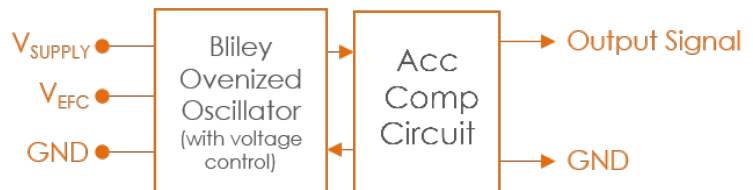
LG G-Compensated OCXO

#blileytakesyoufurther

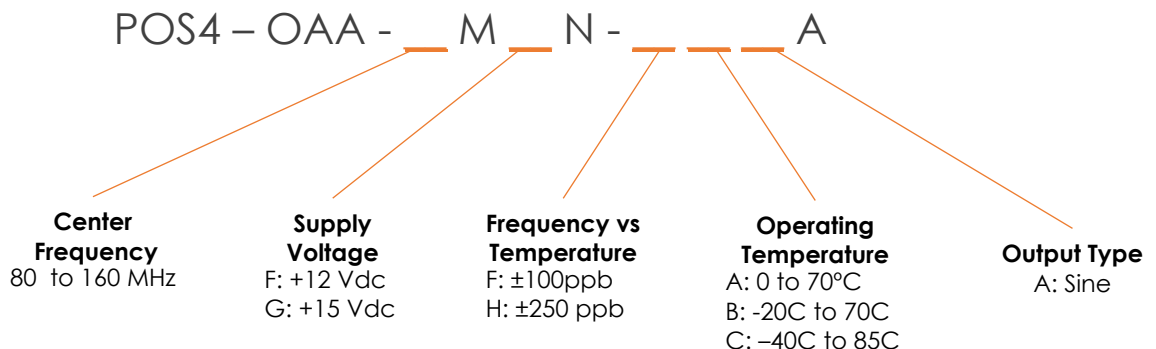
Description

The Poseidon Series is specifically designed for very harsh high vibration environments where dynamic phase noise performance is paramount. The active compensation and passive isolation provide up to 100x improvement in acceleration sensitivity over standard oscillators.

Block Diagram



Part Number Configuration



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Performance Specifications

Parameter	Conditions	Values			Unit
Input Characteristics		MIN	TYP	MAX	
Frequency Range		80	100	160	MHz
Initial Tolerance	@ +25°C±1°C			±0.25	ppm
Warm Up Time	To initial tolerance			5	Min
Frequency Stability					
vs. Temperature	See Options (Max) Referenced to +25°C		±100, ±250		ppb
vs. Load	± 10% Δ in Load		±10.0		ppb
vs. Supply Voltage	± 5% Δ in supply		±10.0		ppb
ADEV (Short Term Stability)	T = 1 second		5E-11		
Aging					
Per Day	MIL-PRF-55310			±5.0	ppb
1 st Year	MIL-PRF-55310			±250	ppb
Supply Voltage	Option F	11.4	12	12.6	Vdc
	Option G	14.25	15	15.75	Vdc
Power Dissipation					
Start-up	Tested at 25°C		7.0	10.6	W
Steady-state	Tested at 25°C		3.0	7.1	W

Note: Values typical of 100 MHz units

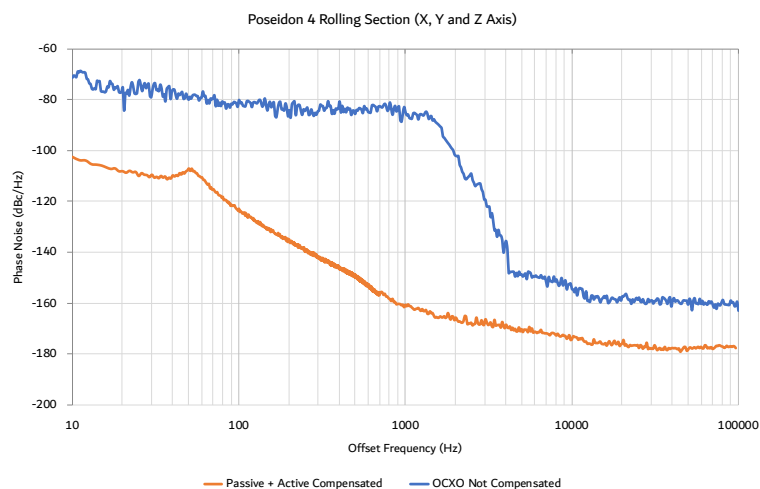
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Performance Specifications

Parameter	Conditions	Values			Unit
Output Characteristics (Sinusoidal)		MIN	TYP	MAX	
Output Level		13.0	14.0	15.0	dBm
Harmonics				-30	dBc
Load Impedance		45	50	55	Ω
VSWR	Into 50 Ω		2:1		

Parameter	Conditions	Values			Unit
Dynamic Phase Noise		TYP			
Phase Noise (100 MHz)	Tested at 25C				
	10Hz	-103			dBc/Hz
	100Hz	-125			dBc/Hz
	1000Hz	-162			dBc/Hz
	10kHz	-174			dBc/Hz
	100kHz	-177			dBc/Hz

Estimated dynamic phase noise performance (100 MHz)



Vibration profile:

DO-160 Curve C (Random Vibration)

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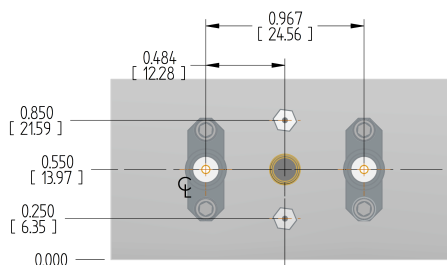
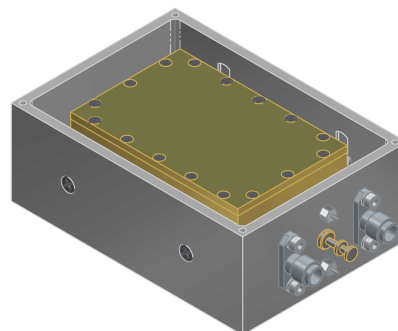
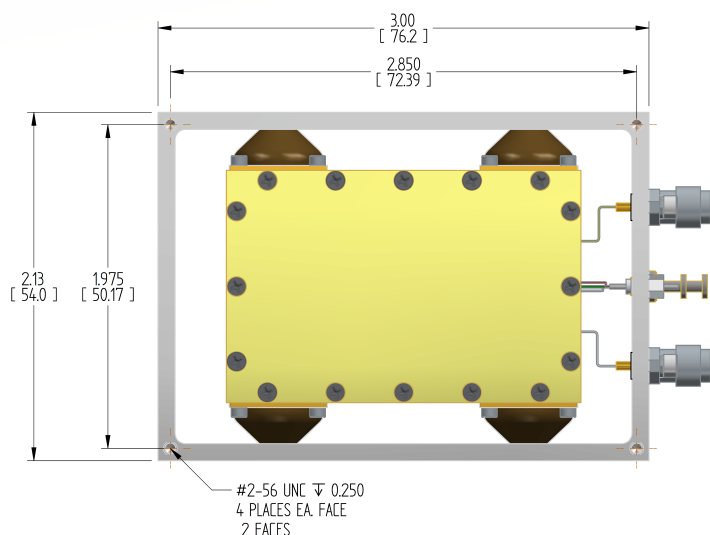
Environmental Compliance

Parameter	Conditions	Values			Unit
Environmental & Reliability		MIN	TYP	MAX	
Operating Temperature	Option A	0		70	°C
	Option B	-20		70	°C
	Option C	-40		85	°C
Storage Temperature		-55°C		95	°C
Shock	MIL-STD-202 Method 213, Test Condition A	Survive			
Sinusoidal Vibration	MIL-STD-202 Method 204, Test Condition B	Survive			
Random Vibration	RTCA DO-160	Survive			
MTBF	Calculated using MIL-HDBK-217	153,300			Hrs
Acceleration Compensation 3 axis Performance	10 MHz output Vibration profile: 0.001G2/Hz 10Hz to 2kHz		0.010		ppb/g

Note: Values typical of 100 MHz units

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Physical Specifications



Tolerances (mm) .X = ± 0.5 , .XX = ± 0.2 unless otherwise specified



Notes:

- None

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