Shake. Rattle. Roll.

High Vibration and G-Compensation Solutions

eliminate micro vibration caused by extreme shock and acceleration,
and enable connectivity

bliley technologies

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Poseidon Series

100x acceleration sensitivity improvement over standard OCXO's

new space

Bliley provides a smooth ride!

Acceleration Sensitivity is a crystal oscillator's inherent sensitivity to external forces applied in any direction. Quartz crystals have a very special place in our hearts at Bliley. They literally provide the heartbeat of the timing electronics we've all come to rely on daily.

The cool thing with quartz crystals is that if you apply a voltage, the quartz will begin to vibrate. The down-side is that if you apply a vibration, the quartz will produce a voltage. This voltage shows up as phase noise and is a real drag.

The magnitude of this phase noise or frequency deviation is directly proportional to the amount of force or acceleration applied..the higher the force > the greater the frequency instability > the greater the noise.

Frequency instability due to a crystal's acceleration sensitivity impacts many aspects of oscillator performance such as:

- ADEV (Short Term Stability)
- Phase Noise Performance
- RMS Phase Jitter

Learn how to improve dynamic phase noise from our blog post.

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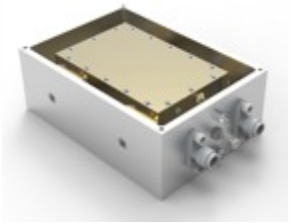
Poseidon Series

specification

100x acceleration sensitivity improvement over standard OCXO's

	poseidon 1	poseidon 2	poseidon 2i	poseidon 3	poseidon 4
	heavy duty isolation		commercial grade	low power	heavy duty isolation ultra low-g integrated PLL
					
std frequencies	5 to 160 mhz	5 to 160 mhz	5 to 160 mhz	10 to 160 mhz	80 to 160 mhz
supply voltage	12 or 15 vdc	12 or 15 vdc	12 or 15 vdc	5 or 3.3 vdc	12 or 15 vdc
startup power	7 watts	7 watts	7 watts	0.500 watts	7 watts
operating power	3 watts	2.5 watts	2.5 watts	0.350 watts	3 watts
operating temp	-40 to 85 °C	-40 to 85 °C	-40 to 85 °C	-40 to 85 °C	-40 to 85 °C
shear isolation	65 hz	35 hz	35 hz	35 hz	65 hz
axial isolation	65 hz	85 hz	85 hz	85 hz	65 hz

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Poseidon Series

100x acceleration sensitivity improvement over standard OCXO's

@10 hz offset	@ 100 khz offset
poseidon 1, 2 & 3	poseidon 1, 2 & 3
-120 dBc/ hz	-165 dBc/ hz
nominal frequency 10 MHz	nominal frequency 10 MHz
poseidon 2i	poseidon 2i
-118 dBc/ hz	-162 dBc/ hz
nominal frequency 10 MHz	nominal frequency 10 MHz
poseidon 4	poseidon 4
-90 dBc/ hz	-177 dBc/ hz
nominal frequency 100 MHz	nominal frequency 100 MHz

DO-160 curve c
(random vibration)

dynamic phase noise

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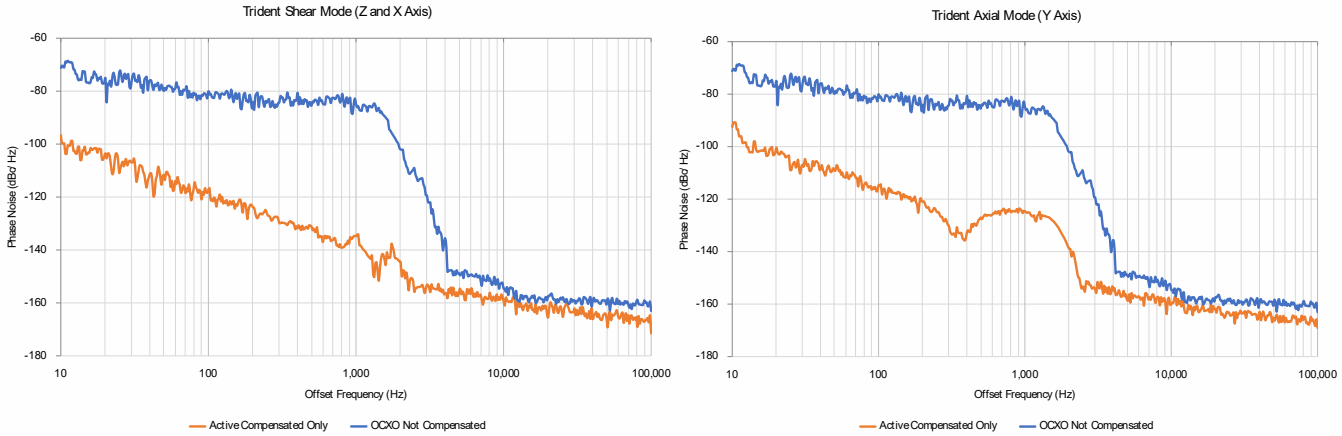
Trident Series

Active Compensation Only 20x acceleration sensitivity improvement over standard OCXOs

trident 1

active compensation

Estimated dynamic phase noise performance (100 MHz)



Vibration profile:
DO-160 Curve C (Random Vibration)

FEATURES

- 0.050 PPB/ G acceleration sensitivity
- -100 dBc/ Hz phase noise @ 10Hz
- ruggedized packaging
- < 300 Hz active compensation

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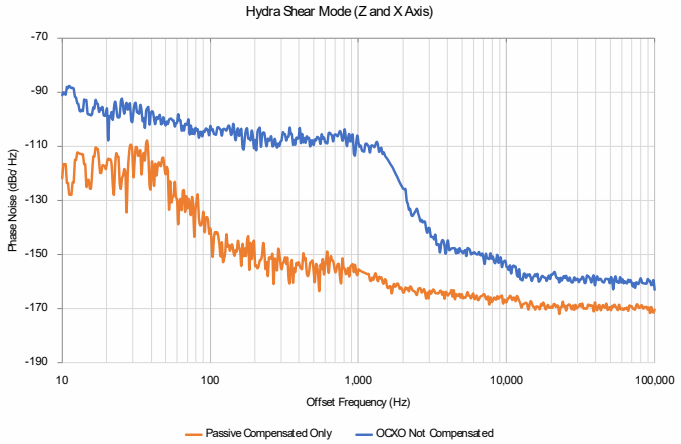
Hydra Series

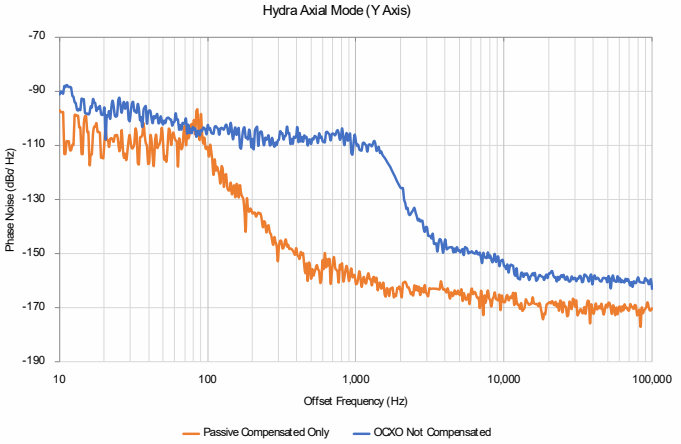
Passive Isolation Only Isolate Shock and Vibrations to < 30 Hz Offset

hydra 1

passive compensation

Estimated dynamic phase noise performance (10 MHz)





Vibration profile:
DO-160 Curve C (Random Vibration)

FEATURES

- 0.050 PPB/ G within passive isolation BW
- -130 dBc/ Hz static phase noise within BW
- ruggedized packaging
- > 1K Hz passive isolation
- 35 Hz shear mode isolation
- 85 Hz axial mode isolation

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quality and reliability is our priority

- AS9100D/ISO9001
- RoHS Compliant Product
- REACH Compliant
- Environmental and Qualification testing to MIL-STD-883B, MIL-STD-202 and MIL-O-55310
- Actively pursuing qualification with DLA/DSCC for MIL-PRF-55310
- Product Screening and Qualification Programs
  - Device Screening
  - Element Evaluation on passive and active devices
- Other Specification Guidelines
  - J-STD-001 Class 3 and IPC-A-610
  - IPC-7711 and IPC-7721 for Rework and authorized repair operations

AS9100:2016
ISO 9001:2015
CERTIFIED

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