

## FEATURES

- ✓ Ultra Low Phase Noise
- ✓ Excellent Frequency Stability Over Temperature Range
- ✓ Excellent long-term aging
- ✓ Rugged Package

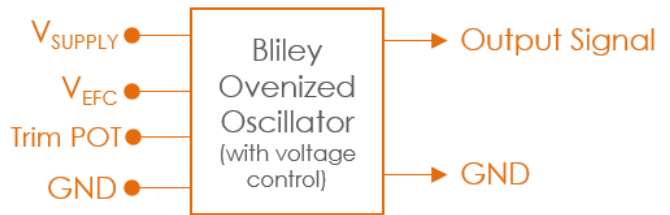
## Oven Controlled Oscillator

#blileytakesyoufurther

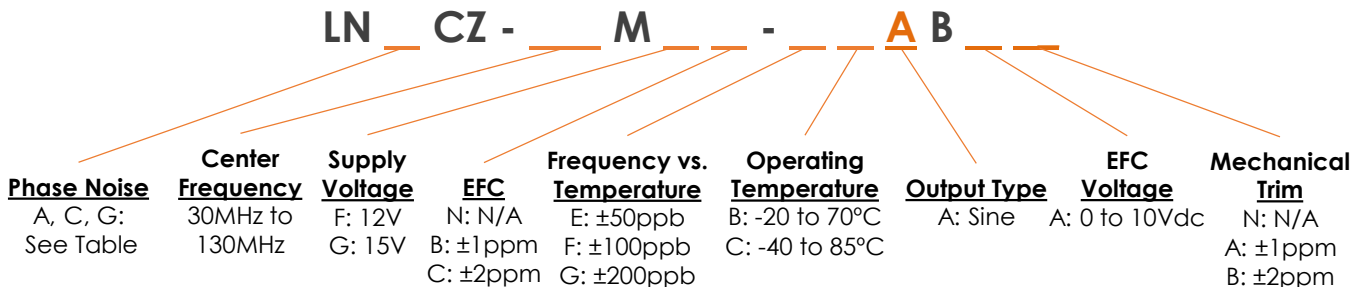
### Description

Zeus high performance OCVCXO spans a wide frequency range and is specifically designed for applications requiring superior noise performance out to a 100kHz offset. It is ideal for phase-locked microwave signal sources such as DROs, low noise test equipment, microwave com-systems, and radar applications.

### Block Diagram



### Part Number Configuration



\*Not all combinations of options may be possible

\*\*Other options may be available

## Performance Specifications

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Input					
Frequency Range		30		130	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		±50, ±100, ±200		ppb
vs. Load	± 10% Δ in Load		±5.0		ppb
vs. Supply Voltage	± 5% Δ in supply		±5.0		ppb
ADEV (Short Term Stability)	T = 1 second		5E-10		
Aging (after 30 days operation)	Per Day			±5.0	ppb
	1 <sup>st</sup> Year			±0.5	ppm
	10 Years			±1.0	ppm
	15 Years			±1.5	ppm
Supply Voltage (Vdd)	Option F	11.4	12	12.6	Vdc
	Option G	14.25	15	15.75	Vdc
Power Dissipation					
Start Up	@ Minimum ambient temp			6.0	W
Steady State	@ +25°C		3.0		W
Electronic Frequency Control					
Voltage Range	Option A	0	5	10	Vdc
Frequency Range	See Options (Min)		±1.0, ±2.0		ppm
Slope			negative		
Input Impedance			100		kΩ
Linearity			10		%
Mechanical Trim Range	See Options (Min)		±1.0, ±2.0		ppm

Values listed above are typical performance of 100MHz

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## Performance Specifications

Parameter	Conditions	Values			Unit
Output Characteristics (Sinusoid)		MIN	TYP	MAX	
Output Level		10	15		dBm
VSWR	Into 50 $\Omega$	2:1			
Spurious				-80	dBc
Harmonics				-30	dBc
Load		45	50	55	$\Omega$

Parameter	Conditions	Values			Unit
Phase Noise		A* & G*		C	
Phase Noise (100 MHz)	Tested at +25°C				
	10Hz	-103		-95	dBc/Hz
	100Hz	-133		-125	dBc/Hz
	1kHz	-160		-155	dBc/Hz
	10kHz	-174		-172	dBc/Hz
	100kHz	-178		-175	dBc/Hz

Note: \*Specified phase noise performance is subject to Export Control restrictions

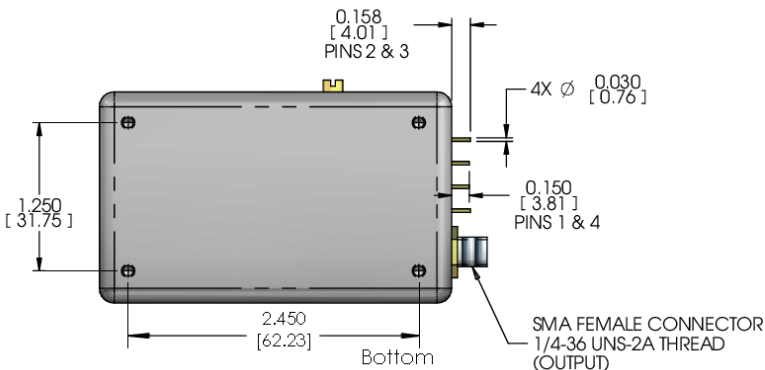
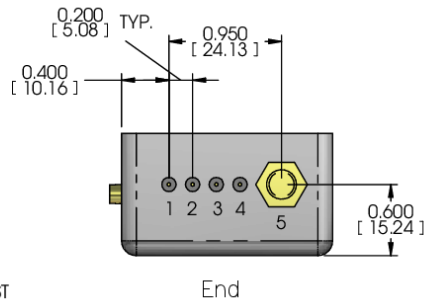
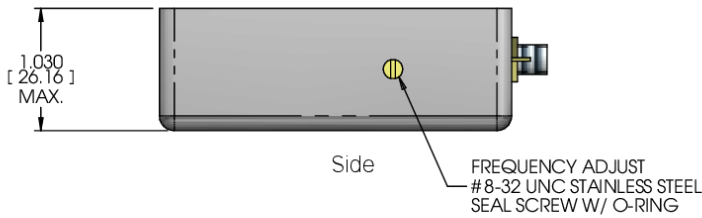
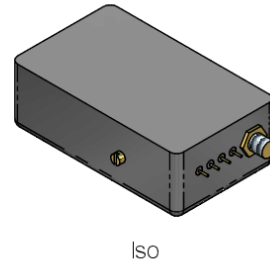
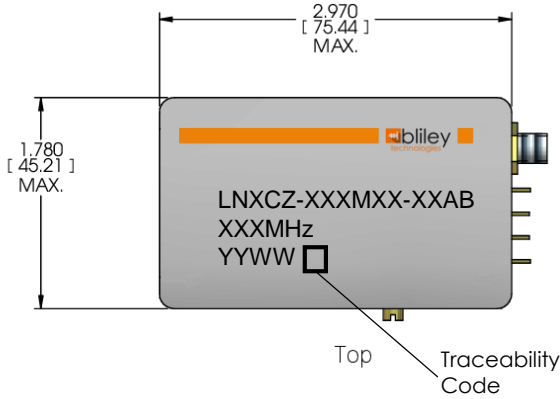
- "A" level phase noise subject to availability
- "G" option is A level phase noise with G-sensitivity screening

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## Environmental Compliance

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Operational Temperature	Option B	-20		+70	°C
	Option C	-40		+85	°C
Storage Temperature		-55		+95	°C
Seal	MIL-STD-202 Method 112 Test Condition D				
Shock	MIL-STD-202G Method 213 Test Condition C				
Random Vibration	MIL-STD-810G Method 514 Test Procedure I				
Sinusoidal Vibration	MIL-STD-202G Method 204 Test Condition A				
MTTF	Calculated using MIL-HDBK-217		155,000		Hours
Acceleration Sensitivity	Typical of 100MHz		1.0		ppb/g
	"G" phase noise option			0.2	ppb/g

## Physical Specifications



PIN	FUNCTION
1	N.C.
2	EFC/N.C.
3	Supply Voltage
4	Ground
5	RF Output

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



Notes:

- 1) EFC/Supply voltage pins are capacitive feedthrough
- 2) ROHS available upon request