



FEATURES

- ✓ Ultra Low Phase Noise
- ✓ Excellent Frequency Stability Over Temperature Range
- ✓ Standard Frequency 100 MHz
- ✓ Excellent long-term aging

Oven Controlled Oscillator

#blileytakesyoufurther

Description

Apollo high performance, miniature 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 DRO's, low noise test equipment, microwave com-systems, and radar applications.

Block Diagram



Part Number Configuration

LN	T	E	-	M	-	-	-	A	B
Phase Noise A or B: See Table	Mounting T: Thru Hole	Frequency 50MHz to 130MHz	Supply Voltage F: 12V G: 15V	EFC N: n/a B: ±1ppm C: ±2ppm	Stability vs. Temp E: ±50ppb F: ±100ppb G: ±200ppb	Temp Range B: -20 to 70°C C: -40 to 85°C	Output Signal A: Sine		

Performance Specifications

Parameter	Conditions	Values			Unit
Input Characteristics		MIN	TYP	MAX	
Supply Voltage (Vdc)	Option F	+11.4	+12	+12.6	Vdc
	Option G	+14.25	+15	+15.75	Vdc
Power Dissipation					
Warm-Up	@ Minimum Ambient Temp			4.8	Watts
Steady State	@ +25°C±1°C		1.5		Watts
Electronic Frequency Control					
Voltage Range		0		+10	Vdc
Center Voltage			+5.0		Vdc
Frequency Range	Option B	±1.0			PPM
	Option C	±2.0			PPM
Slope	Positive				
Input Impedance		100K			Ω
Linearity			±10		%
Output Characteristics (Sinusoidal)		MIN	TYP	MAX	
Frequency Range		50.0		130	MHz
Initial Accuracy	@ +25°C±1°C			±0.25	PPM
Output Power	Into 50Ω ± 10%	+10.0			dBm
Load Impedance		45	50	55	Ω
VSWR	Into 50Ω ± 10%		2:1		
Harmonics	Into 50Ω ± 10%			-30	dBc

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Performance Specifications

Parameter	Conditions	Values			Unit
Frequency Stability		MIN	TYP	MAX	
Warmup	Within 5 Minutes			±0.1	PPM
Frequency vs. _____					
Temperature	Referenced to +25°C				PPB
	Option E			±50	PPB
	Option F			±100	PPB
	Option G			±200	PPB
Load	± 10% Δ in Load		±5.0		PPB
Voltage	± 5% Δ in supply		±5.0		PPB
Allan Variance (Short Term Stability)	τ = 1 Second		5e-10		
Aging (Per Day)				±5.0	PPB
Aging (1 Year)				±0.500	PPM
Aging (10 Years)				±1.0	PPM
Aging (15 Years)				±1.5	PPM

Parameter	Conditions	Option		Unit
Phase Noise		A	B	
Phase Noise (100MHz output)	Tested at 25C			
	10Hz	-103	-95	dBc/Hz
	100Hz	-133	-125	dBc/Hz
	1KHz	-157	-145	dBc/Hz
	10KHz	-172	-160	dBc/Hz
	100KHz	-175	-170	dBc/Hz

'A' level phase noise performance subject to ITAR export restrictions

Values listed above are typical performance of 100MHz

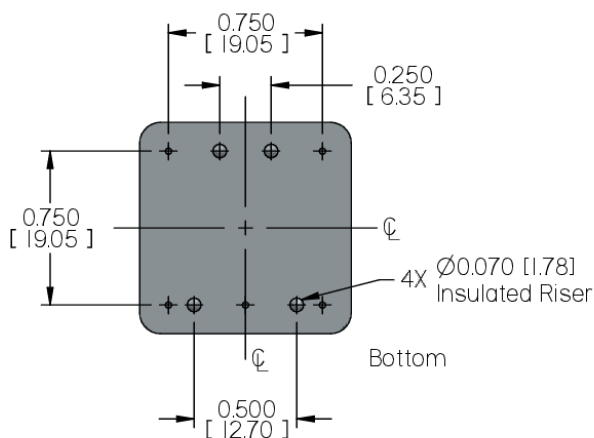
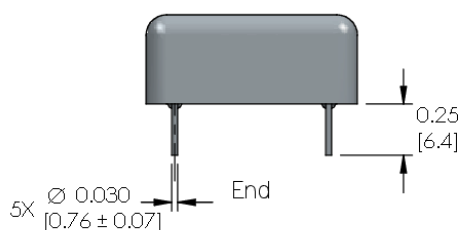
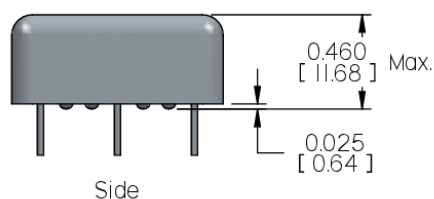
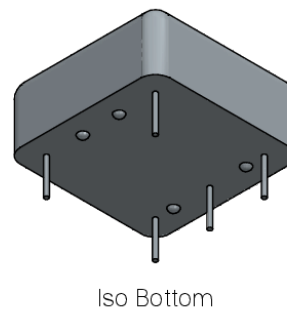
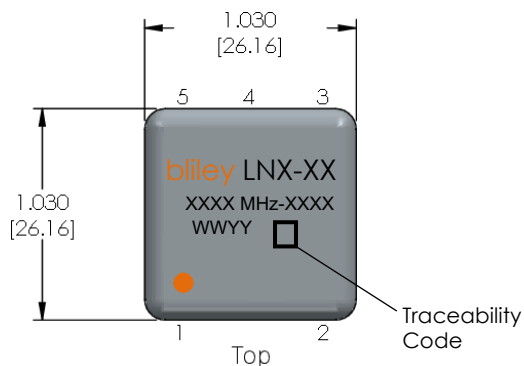
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Environmental & Reliability

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Frequency Stability					
Operational Temperature	Option B	-20		+70	°C
	Option C	-40		+85	°C
Storage Temperature		-55		+95	°C
Shock	MIL-STD 202G Method 213 Condition C				
Random Vibration	MIL-STD 810G Method 514 Procedure I				
Sinusoidal Vibration	MIL-STD 202G Method 204 Condition A				
MTTF	Calculated using MIL-HDBK-217		153,300		Hours
Acceleration Sensitivity	Typical of 100MHz		1		PPB/g

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Physical Specifications



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

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



Sunburst Electronics

Notes:

- Non-RoHS available upon request

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