



**FEATURES**

- ✓ Surface Mountable Design
- ✓ High Stability vs. Temperature
- ✓ Quick Warm-Up Time
- ✓ Low Age Rates
- ✓ Low Phase Noise
- ✓ 25x25mm Package

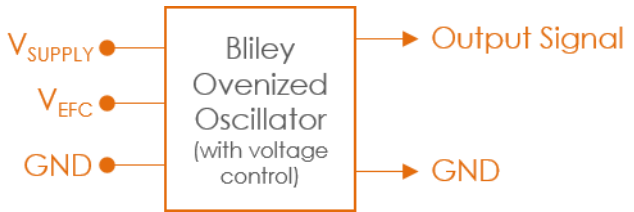
#blileytakesyoufurther

**Oven Controlled Oscillator**

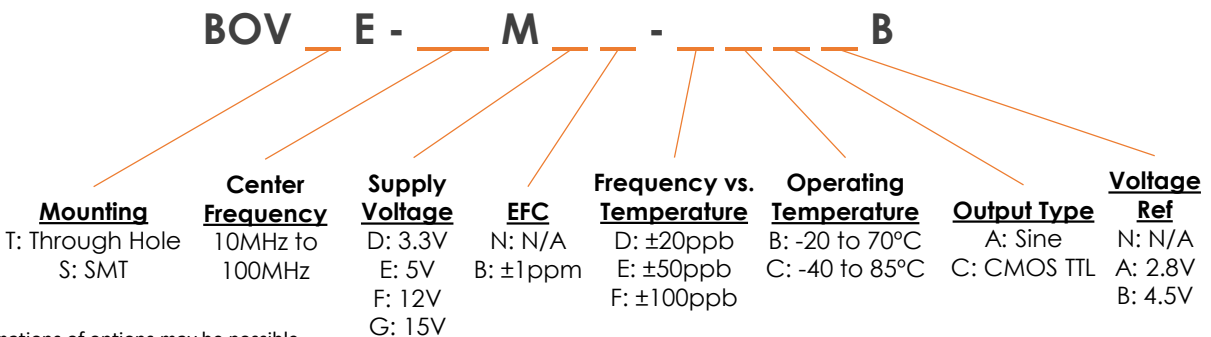
**Description**

Bliley high performance OXCO product offering is a result of 85 years in the Frequency Control Industry. Modern layout topologies enable Bliley to engineer and produce robust designs for all 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	
Frequency Range		10		100	MHz
Initial Tolerance	@ +25°C±1°C			±100	ppb
Warm Up Time	To initial tolerance			3	Min
Frequency Stability					
vs. Temperature	See Options (Max) Referenced to +25°C		±20, ±50, ±100		ppb
vs. Load	5% Change		±2		ppb
vs. Supply Voltage	5% Change		±2		ppb
ADEV (Short-Term Stability)	T = 1 Second		5		E-12
Aging					
Per Day	After 30 Days Operation			±1.0	ppb
1 <sup>st</sup> Year				±100	ppb
Supply Voltage					
	Option D	3.13	3.3	3.47	Vdc
	Option E	4.75	5	5.25	Vdc
	Option F	11.4	12	12.6	Vdc
Oscillator Power					
	Start Up			3	W
	Steady State		1.5		W
Electronic Frequency Control					
Voltage Range					
	@3.3V, @5V	0		Vdd	Vdc
	@12V	0		10	
Center Voltage					
	@5V		Vdd/2		Vdc
	@12V		5		
Frequency Range		±1			ppm
Slope			positive		
Input Impedance			100		kΩ
Linearity			10		%

Note: Values typical of 10MHz units

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## Performance Specifications

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Output Characteristics (CMOS/TTL)		MIN	TYP	MAX	
High Output Level	Logic "1"	90% Vdd			Vdc
Low Output Level	Logic "0"	10% Vdd			Vdc
Rise/Fall Time		10			nSec
Duty Cycle		45	50	55	%
Load		15			pF
Output Characteristics (Sinusoid)		MIN	TYP	MAX	
Output Level		7.0			dBm
VSWR	Into 50 $\Omega$	1.5:1			
Harmonics		-30			dBc
Load		45	50	55	$\Omega$

Parameter	Conditions	Values		Unit	
		TYP	TYP		
Phase Noise		TYP	TYP		
Phase Noise (10 MHz)	Tested at +25°C	Sinusoid	CMOS		
		1Hz	-90	-90	dBc/Hz
		10Hz	-120	-120	dBc/Hz
		100Hz	-145	-145	dBc/Hz
		1kHz	-150	-150	dBc/Hz
		10kHz	-155	-155	dBc/Hz
Phase Noise (100 MHz)	Tested at +25°C	Sinusoid	CMOS		
		10Hz	-90	-90	dBc/Hz
		100Hz	-120	-120	dBc/Hz
		1kHz	-152	-152	dBc/Hz
		10kHz	-160	-160	dBc/Hz
		100kHz	-162	-162	dBc/Hz

Ultra-low phase noise options available in Bliley Apollo LN OCXO families

## Performance Specifications

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Reference Voltage	Option A	2.6	2.8	3.0	Vdc
	Option B	4.3	4.5	4.7	Vdc

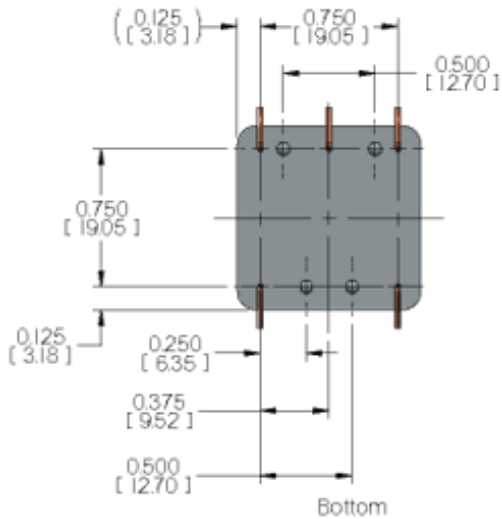
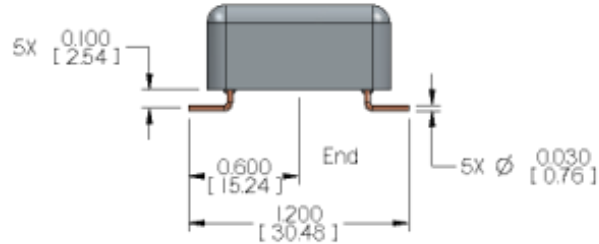
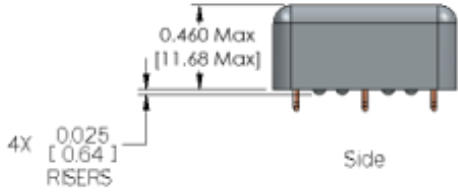
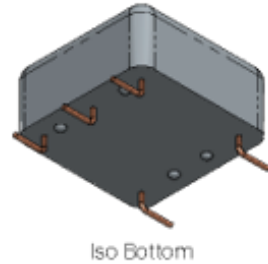
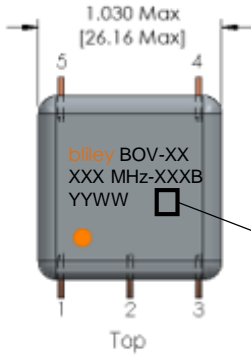
Note: Values typical of 10MHz units

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## Environmental Compliance

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Operating Temperature	Option B	-20		+70	°C
	Option C	-40		+85	°C
Storage Temperature		-50		+100	°C
Seal	MIL-STD-202 Method 112 Test Condition D				
Mechanical Shock	MIL-STD-202 Method 213 Test Condition J				
Vibration	MIL-STD-202 Method 201				
Acceleration Sensitivity	10MHz output Vibration profile: 0.001G <sup>2</sup> /Hz 10Hz to 2kHz		1.0		ppb/g

# Physical Specifications – Surface Mount



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

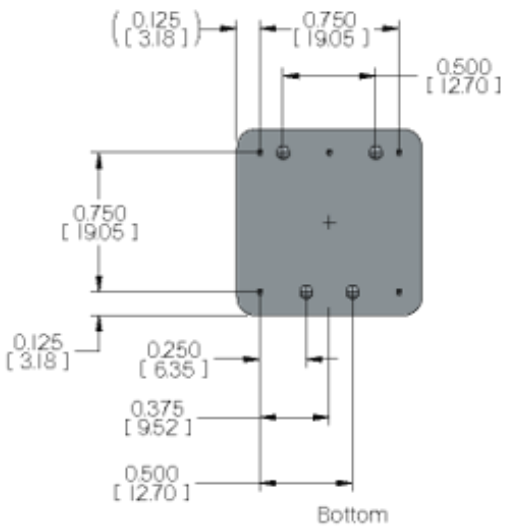
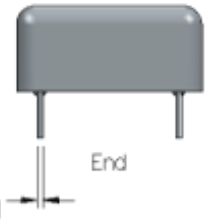
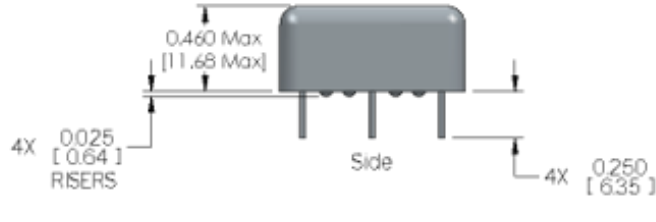
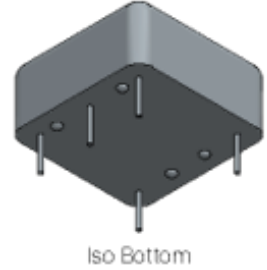
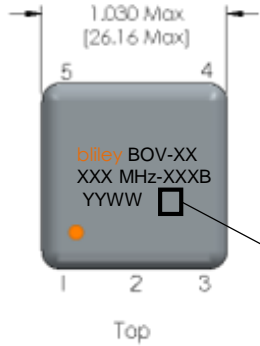
Tolerances (mm) .X = ± 0.5, .XX = ± 0.2 unless otherwise specified

Notes:

- None

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# Physical Specifications – Through Hole



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

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

Notes:  
• None

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