

**FEATURES**

- ✓ Wide Operating Temperature Range
- ✓ Standard 9x14mm Package
- ✓ Rugged Hermetically Sealed Package
- ✓ Mil-Std-202 Compliant

**Voltage Controlled Oscillator**

#blileytakesyoufurther

**Description**

Voltage Controlled Oscillators are designed to meet the rigorous demands of Military Standards as well as provide long life to OEM equipment manufacturers. Bliley Engineers Concurrent Design philosophy provides robust designs which are economical as well as reliable for long-term life. Applications consist of SATCOM, TELECOM, Military and Instrumentation.

**Block Diagram**



**Part Number Configuration**

**BVCS - M N - A T**

<u>Footprint</u>	<u>Center Frequency</u>	<u>Supply Voltage</u>	<u>Output Control</u>	<u>Frequency vs. Temperature</u>	<u>Operating Temperature</u>	<u>Output Type</u>	<u>EFC</u>
H: 9x14mm(6pad) J: 9x14mm(4pad)	1MHz to 200MHz	D: 3.3V E: 5V	N: N/A	A: ±25ppm B: ±50ppm D: ±20ppm E: ±10ppm	B: -20°C to 70°C C: -40°C to 85°C D: -55°C to 125°C	A: Sine	A: ±25ppm B: ±50ppm C: ±100ppm

\*Not all combinations of options may be possible  
\*\*Other options may be available

## Performance Specifications

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Frequency		1		200	MHz
Initial Frequency Tolerance	Tested at +25°C			±1.5	ppm
Frequency Stability					
vs. Temperature	See Options (Max) Referenced to +25°C	±10, ±20, ±25, ±50			ppm
vs. Load	5% Change			±1	ppm
vs. Supply Voltage	5% Change			±1	ppm
Aging	1 <sup>st</sup> year			±2	ppm
Supply Voltage	Option D	3.135	3	3.465	Vdc
	Option E	4.75	5	5.25	Vdc
Current Consumption	25MHz			15	mA
	125MHz			60	mA
	200MHz			100	mA
Electronic Frequency Control					
Voltage Range	@3.3V	0.15		3.15	Vdc
	@5V	0.5		4.5	Vdc
Center Voltage		Vdd/2			
Frequency Range	See Options (Min)	±25, ±50, ±100			ppm
Slope		positive			
Input Impedance		100			kΩ
Linearity		10			%

## Performance Specifications

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Output Characteristics					
Output Level	3.3V Supply	$\pm 0$			dBm
	5.0V Supply	$\pm 5$			dBm
Load		47.5	50	52.5	$\Omega$

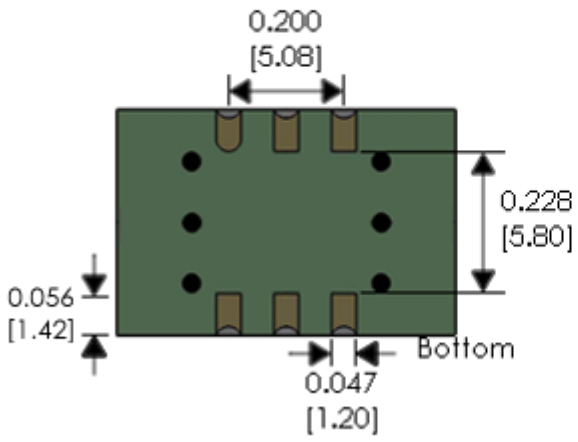
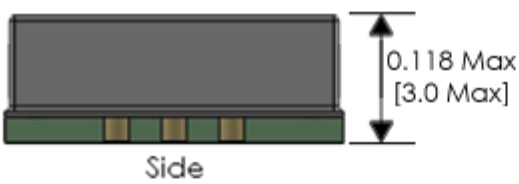
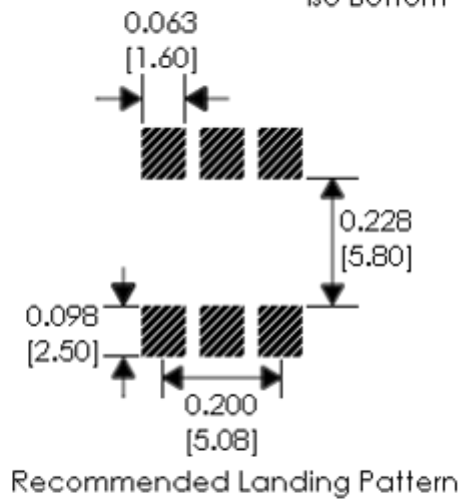
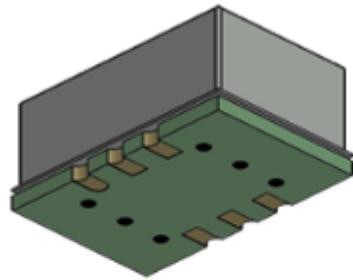
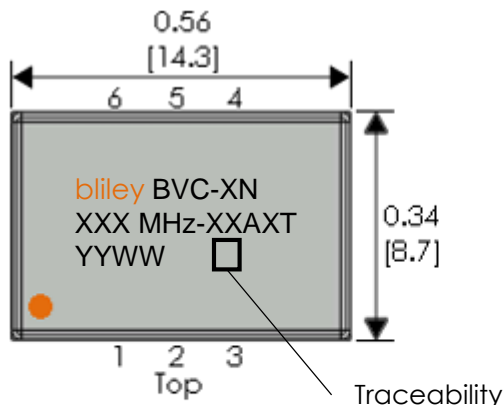
Parameter	Conditions	Values		Unit
		TYP	TYP	
Phase Noise				
Phase Noise (@ 25°C)	Offset	100MHz	125MHz	
	10Hz	-83	-78	dBc/Hz
	100Hz	-115	-110	dBc/Hz
	1kHz	-140	-135	dBc/Hz
	10kHz	-155	-145	dBc/Hz
	100kHz	-164	-155	dBc/Hz
	1MHz	-165	-165	dBc/Hz

## Environmental Compliance

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Operating Temperature	Option B	-20		+70	°C
	Option C	-40		+85	°C
	Option D	-55		+125	°C
Storage Temperature		-55		+125	°C
Solderability	MIL-STD-202 Method 208				
Shock	MIL-STD-202 Method 213 Test Condition A				
Vibration	MIL-STD-202 Method 204 Test Condition C				
Seal	MIL-STD-202 Method 112 Test Condition C & D				

**DISCLAIMER:** Bliley Technologies, Inc. reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No intellectual property rights accompany the sale or delivery of any such product(s) or information.

# Physical Specifications (Option H)



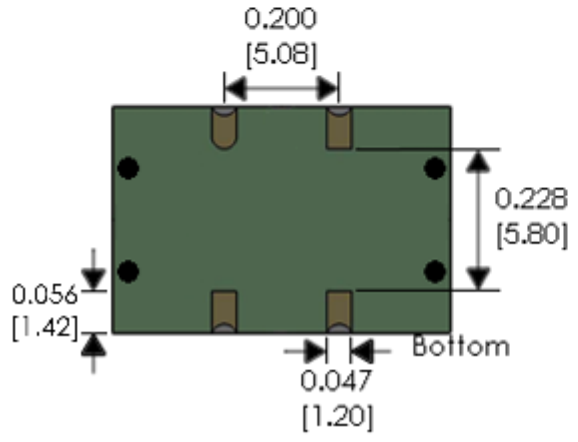
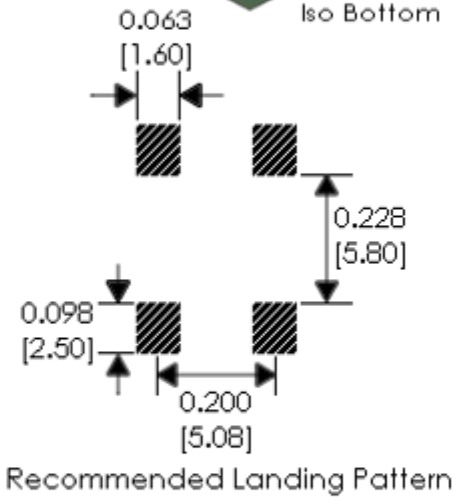
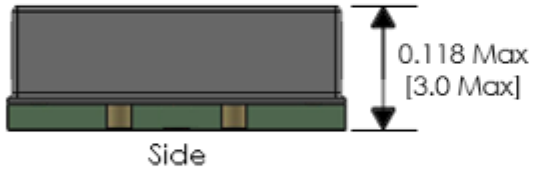
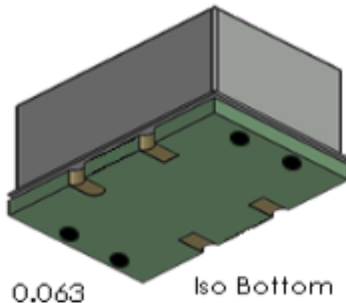
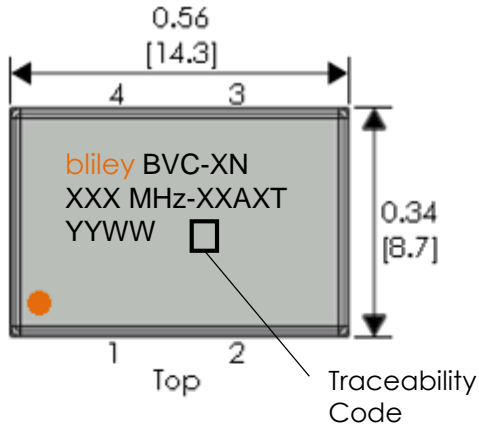
PIN	FUNCTION
1	EFC
2	N.C.
3	Ground
4	RF Output
5	N.C.
6	Supply Voltage

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

Notes  
 1) None

DISCLAIMER: Bliley Technologies, Inc. reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No intellectual property rights accompany the sale or delivery of any such product(s) or information.

# Physical Specifications (Option J)



PIN	FUNCTION
1	EFC
2	Ground
3	RF Output
4	Supply Voltage

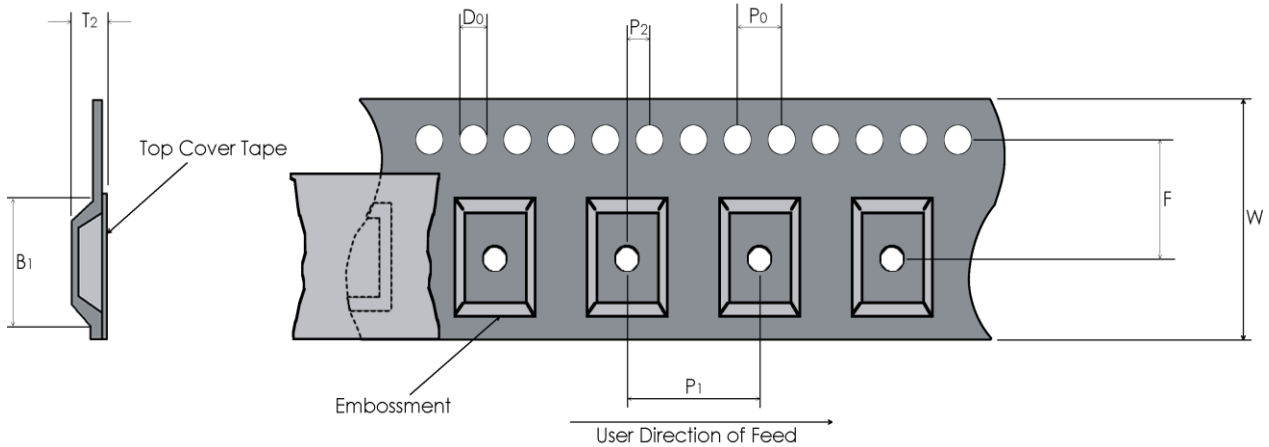
Tolerances (mm) .X = ± 0.5, .XX = ±0.2 unless otherwise specified

Notes  
1) None

DISCLAIMER: Bliley Technologies, Inc. reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No intellectual property rights accompany the sale or delivery of any such product(s) or information.

# Tape and Reel

Embossed Carrier Dimensions (8mm, 12mm, 16mm, 24mm Tape Only)



Tape Dimensions (mm)				Reel Dimensions (mm)					
W	F	Do	Po	P1	P2	B1	T2	Outside Dia.	Parts / Reel
24	11.5	1.5	4.0	12	2.0	15	8.8	330	1000

# Recommended Reflow Profile

**Reflow Profile:** in accordance to IPC/JEDEC J-STD-020 (Latest Revision)

**Additional Notes:**

- This part has been designed for pick and place reflow soldering
- This part may be reflowed once
- This part should not be reflowed in the inverted position

# Packaging

**Packaging:** All packaging must conform to ESD Controls detailed in ANSI/ESD S20.20 (Latest Revision)

**DISCLAIMER:** Bliley Technologies, Inc. reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No intellectual property rights accompany the sale or delivery of any such product(s) or information.