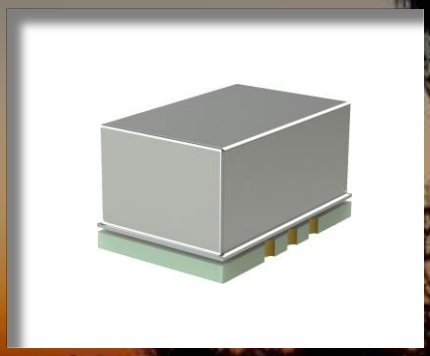
BVCSX-XXXMXN-XXAXT – 9x14 SINE VCXO

bliley technologies



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

Footprint	Center Frequency	Supply Voltage	Output Control	Frequency vs. Temperature	Operating Temperature	Output Type	EFC
9: 9x14mm(6pad) A: 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

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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	1st 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

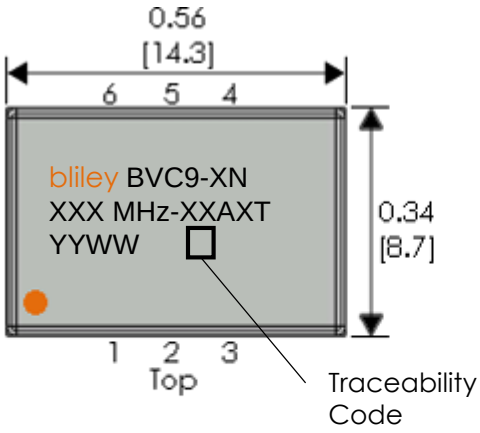
Parameter	Conditions	Values			Unit
Output Characteristics		MIN	TYP	MAX	
Output Level	3.3V Supply	±0			dBm
	5.0V Supply	±5			dBm
Load		47.5	50	52.5	Ω

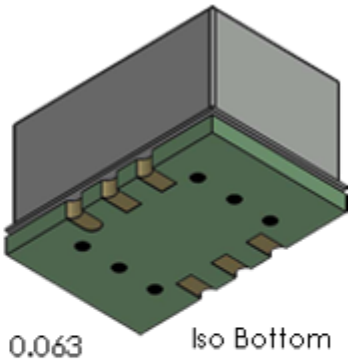
Parameter	Conditions	Values		Unit
Phase Noise		TYP	TYP	
Phase Noise (@ 25°C)	Offset	100MHz	125MHz	
	10Hz	-85	-80	dBc/Hz
	100Hz	-115	-110	dBc/Hz
	1kHz	-140	-135	dBc/Hz
	10kHz	-160	-145	dBc/Hz
	100kHz	-164	-155	dBc/Hz
	1MHz	-165	-165	dBc/Hz

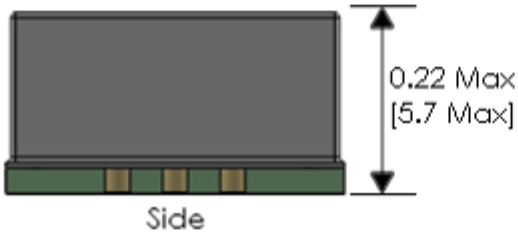
Environmental Compliance

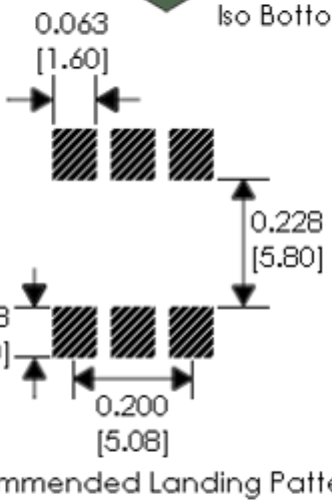
Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Operating Temperature	Option B	-20		+70	°C
	Option C	-40		+85	°C
	Option D	-55		+125	°C
Storage Temperature		-55		+125	°C
Solderability	MIL-STD-202 Method 208				
Shock	MIL-STD-202 Method 213 Test Condition A				
Vibration	MIL-STD-202 Method 204 Test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

Physical Specifications (Option 9)

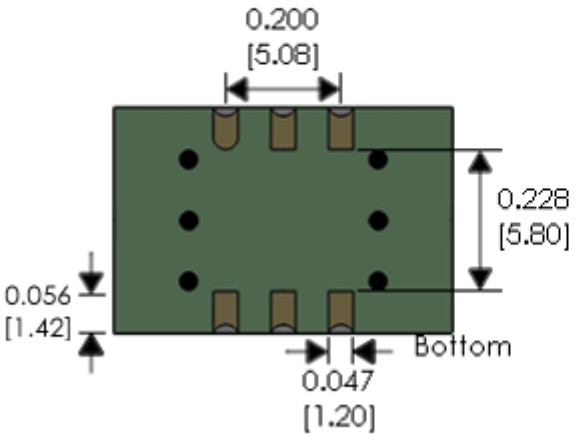








Recommended Landing Pattern

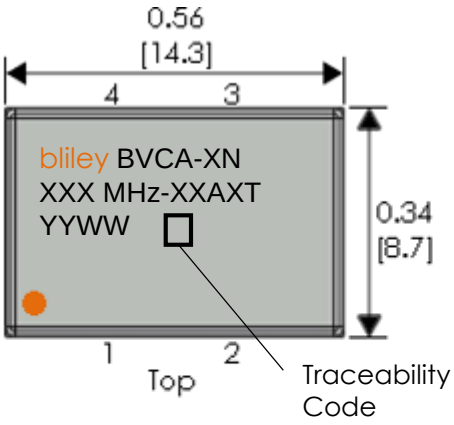


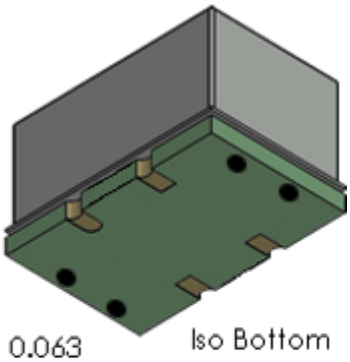
PIN	FUNCTION
1	EFC
2	N.C.
3	Ground
4	RF Output
5	N.C.
6	Supply Voltage

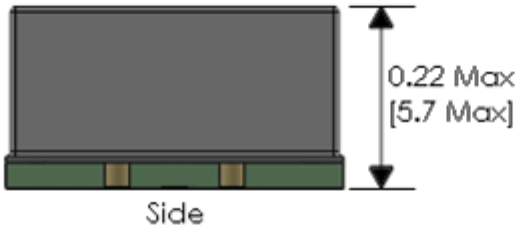
Tolerances (mm) .X = ± 0.5, .XX = ±0.2 unless otherwise specified

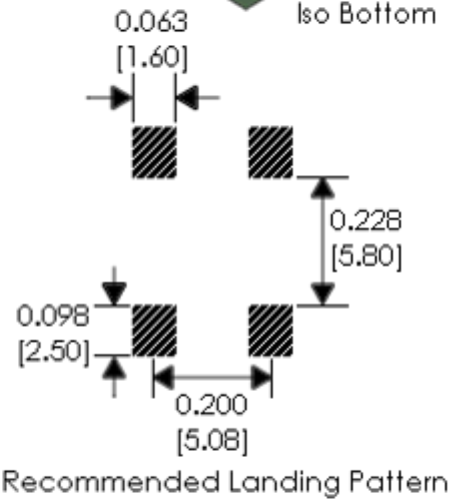
Notes
1) None

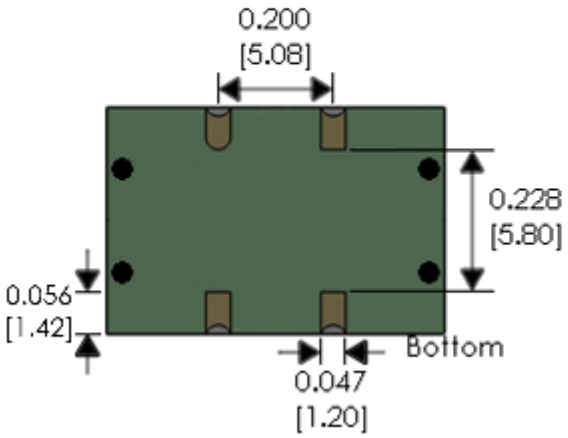
Physical Specifications (Option A)











PIN	FUNCTION
1	EFC
2	Ground
3	RF Output
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Tolerances (mm) .X = ± 0.5, .XX = ±0.2 unless otherwise specified

Notes
1) None

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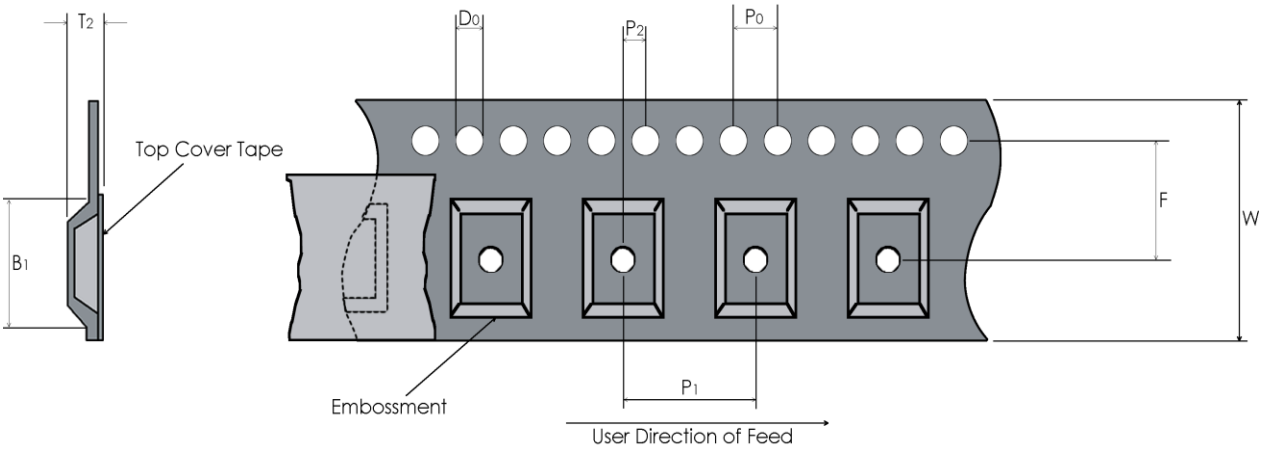
Tape and Reel

Embosed 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)