BTCS3-XXXMXX-XXXT – 3.2x2.5 TCVCXO

bliley technologies

FEATURES

- ✓ Low Phase Noise Performance
- ✓ SMD Construction
- ✓ Standard 3.2x2.5mm Package
- ✓ Tape and Reel Compatibility

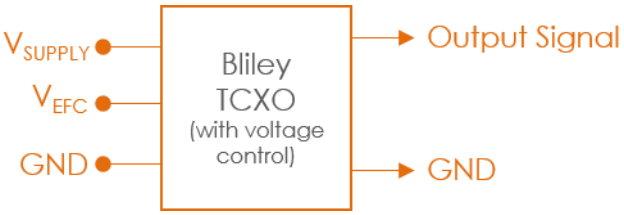
Temperature Controlled Crystal Oscillator

#blileytakesyoufurther

Description

Bliley TCVCXO's are capable of meeting Frequency vs. Temperature stabilities which rival traditional "Ovenized Oscillator" Technology. This coupled with design topologies meeting the harshest Mil-Standards makes Bliley TCXO's the choice of many system designers for mobile equipment.

Block Diagram



Part Number Configuration

BTCS3 - ___ M ___ ___ - ___ ___ ___ T

Center Frequency	Supply Voltage	EFC	Frequency vs. Temperature	Operating Temperature	Output Type
10MHz to 50MHz	B: 1.8V C: 3.0V D: 3.3V H: 2.5V	N: N/A F: ±5ppm G: ±10ppm	B: ±0.5ppm C: ±1ppm J: ±2ppm H: ±3ppm	B: -20 to 70°C C: -40 to 85°C	B: Clipped Sine C: CMOS TTL

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

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.

Bliley Technologies, Inc. • 2545 W. Grandview Blvd, Erie, PA 16506 • 1-814-838-3571 • bliley.com • info@bliley.com

Performance Specifications

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Frequency Range		10		50	MHz
Initial Frequency Tolerance[1]	Tested at +25ºC			±2	ppm
Frequency Stability					
vs. Temperature	See Options (Max) Referenced to +25˚C		±0.5, ±1, ±2, ±3		ppm
vs. Load	10% Change			±0.3	ppm
vs. Supply Voltage	5% Change			±0.3	ppm
Aging					
1st Year				±1.0	ppm
5 Years				±3	ppm
Supply Voltage (Vdd)	Option B	1.71	1.8	1.89	Vdc
	Option C	2.85	3.0	3.15	Vdc
	Option D	3.13	3.3	3.47	Vdc
	Option H	2.37	2.5	2.63	
Current Consumption			2	5	mA
Start-up Time			5		mSec
Electronic Frequency Control					
Voltage Range		0		Vdd	Vdc
Center Voltage			Vdd/2		Vdc
Frequency Range	See options (min)		±5, ±10		ppm
Slope			positive		
Input Impedance			100		kΩ
Linearity			10		%
Moisture Sensitivity Level	1				

1: Initial tolerance only applicable to parts without EFC/voltage control

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.

Performance Specifications

Parameter	Conditions	Values			Unit
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 (Clipped-Sine)		MIN	TYP	MAX	
Output Level		0.8			Vpp
Load	±10%		10 KΩ//10 pf		

Parameter	Conditions	Values	Unit
Phase Noise		TYP	
Phase Noise (10 MHz)	Tested at +25°C		
	10Hz	-80	dBc/Hz
	100Hz	-115	dBc/Hz
	1kHz	-135	dBc/Hz
	10kHz	-138	dBc/Hz
	100kHz	-142	dBc/Hz

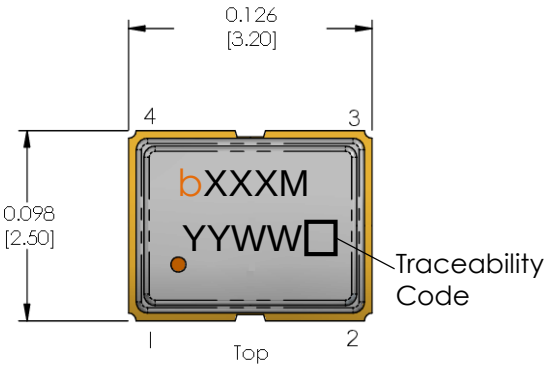
DISCLAIMER: Bliley Technologies, Inc. reserves the right to make changes to the product(s) and or information contained herein without notice. No liability is assumed as a result of their use or application. No intellectual property rights accompany the sale or delivery of any such product(s) or information.

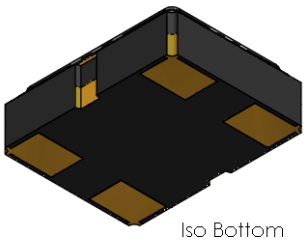
Environmental Compliance

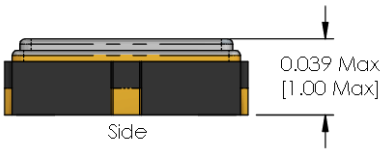
Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Operating Temperature	Option B	-20		+70	°C
	Option C	-40		+85	°C
Storage Temperature		-55		+125	°C
Solderability	MIL-STD-202 Method 208				
Solvent Resistance	MIL-STD-202 Method 215				
Shock	MIL-STD-202 Method 213 Test Condition I				
Vibration	MIL-STD-202 Method 204 Test Condition C				
Thermal Shock	MIL-STD-202 Method 107 Test Condition B-1				
Seal	MIL-STD-202 Method 112 Test Condition C & D				

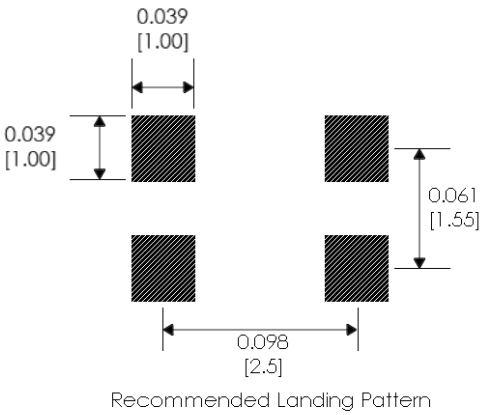
DISCLAIMER: Bliley Technologies, Inc. reserves the right to make changes to the product(s) and or information contained herein without notice. No liability is assumed as a result of their use or application. No intellectual property rights accompany the sale or delivery of any such product(s) or information.

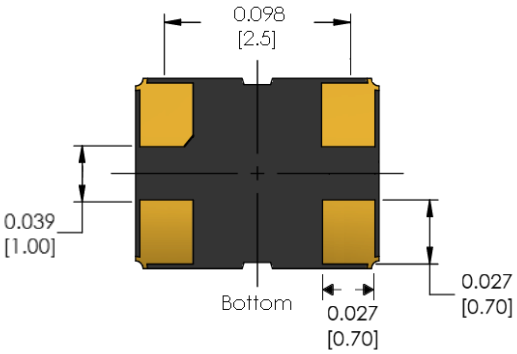
Physical Specifications











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

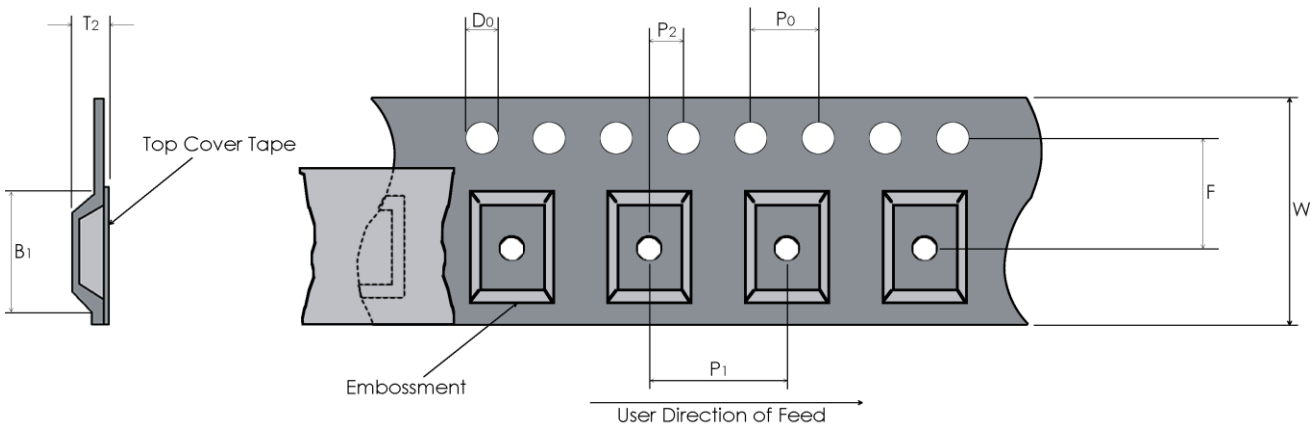
PIN	FUNCTION
1	EFC / N.C.
2	Ground
3	RF Output
4	Supply Voltage

Notes:
Connection Pads: Gold(10-40 µ in.) over Nickel (100-250 µ in.)

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

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
12	5.5	1.5	4.0	8	2.0	3.7	1.1	180	1,000

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.