BTCS3-32K7XX-XXXT – 3.2x2.5 TCXO

bliley technologies

FEATURES

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

Temperature Controlled Crystal Oscillator

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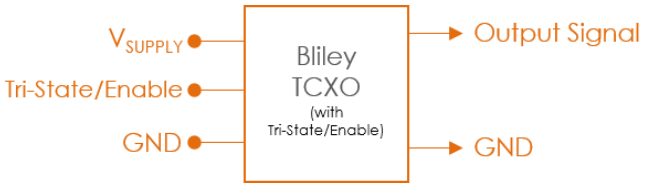
Description

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 - 32K7 _ _ - _ _ _ T

Center Frequency	Supply Voltage	Output Control	Frequency vs. Temperature	Operating Temperature	Output Type
32.768KHz	B: 1.8V C: 3.0V D: 3.3V E: 5.0V H: 2.5V	N: N/A E: Enable T: Tristate	D: ±5ppm H: ±3ppm	B: -20 to 70°C C: -40 to 85°C	C: CMOS TTL D: HCMOS

*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			32.768		KHz
Initial Frequency Tolerance	Tested at +25ºC		±1.5		ppm
Frequency Stability					
vs. Temperature	See Options (Max) Referenced to +25˚C		±3, ±5		ppm
vs. Load	10% Change			±0.2	ppm
vs. Supply Voltage	5% Change			±0.2	ppm
Aging	1st Year			±3.0	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 E	4.75	5.0	5.25	Vdc
	Option H	2.37	2.5	2.63	Vdc
Current Consumption			1	3	µA
Output Enable	Enable – High Disable – Low	20%Vdd		80%Vdd	
Start-up Time			1	3	Sec
Moisture Sensitivity Level	1				

Performance Specifications

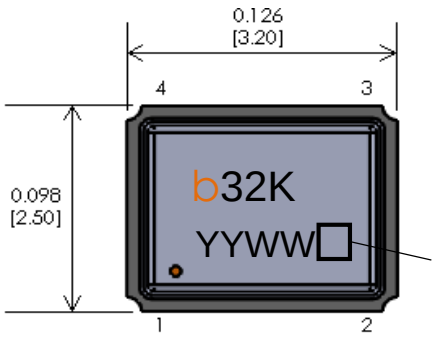
Parameter	Conditions	Values			Unit
Output Characteristics		MIN	TYP	MAX	
High Output Level	Logic "1"	Vdd – 0.4		0.4	Vdc
Low Output Level	Logic "0"			0.4	Vdc
Rise/Fall Time				100	nSec
Duty Cycle		40	50	60	%
Load Impedance			15		pF

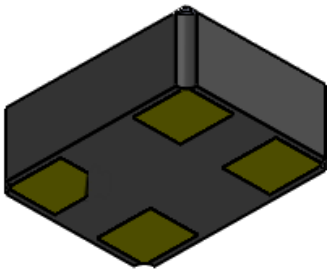
Parameter	Conditions	Values	Unit
Phase Noise		TYP	
Phase Noise	Tested at +25°C		
	10Hz	-80	dBc/Hz
	100Hz	-115	dBc/Hz
	1kHz	-135	dBc/Hz
	10kHz	-138	dBc/Hz

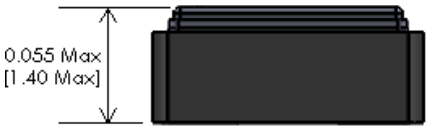
Environmental Compliance

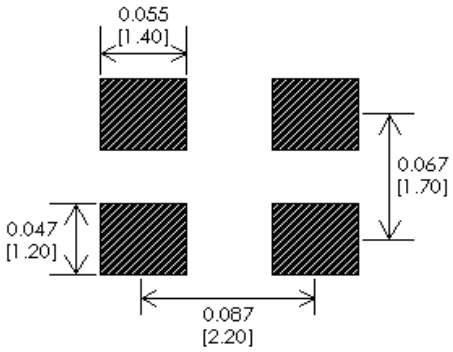
Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Operating Temperature	Option B	-20		+70	°C
	Option C	-40		+85	
Storage Temperature		-50		+100	°C
Solderability	MIL-STD-202 Method 208				
Solvent Resistance	MIL-STD-202 Method 215				
Shock	MIL-STD-202 Method 213 Test Condition I				
Vibration	MIL-STD-202 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				

Physical Specifications

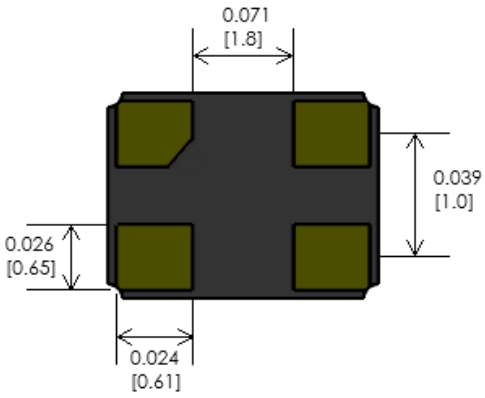








Recommeneded Landing Pattern



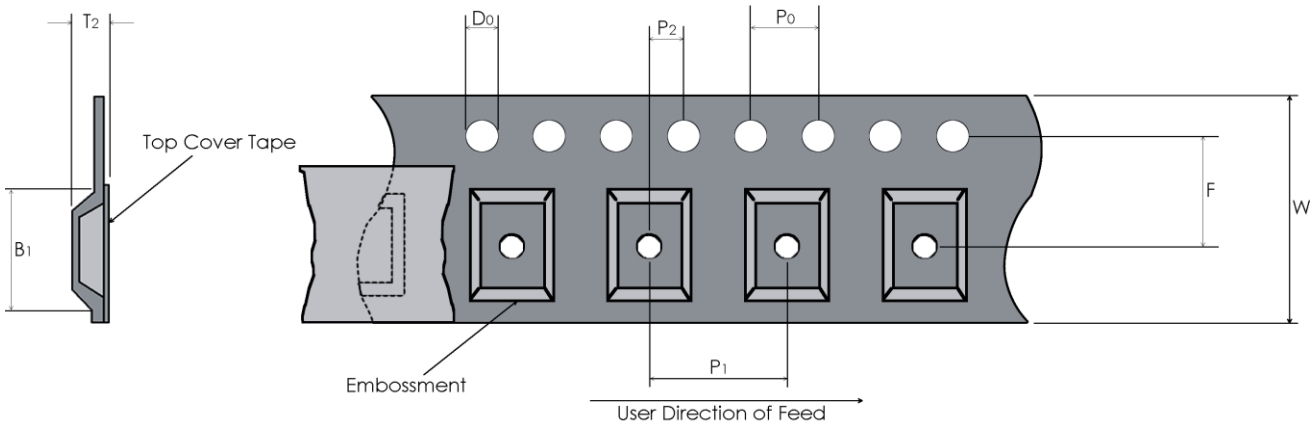
Tolerances (mm) .X = ± 0.5, .XX = ±0.2 unless otherwise specified

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

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

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)