

**FEATURES**

- ✓ Low Phase Noise Performance
- ✓ SMD Construction
- ✓ Tape and Reel Compatibility

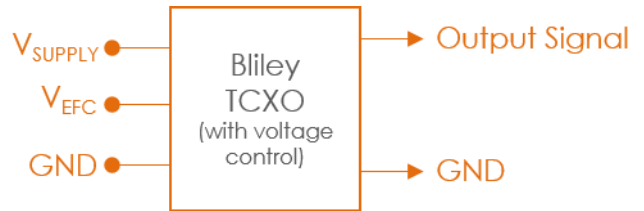
**Temperature Controlled Crystal Oscillator**

**#blileytakesyoufurther**

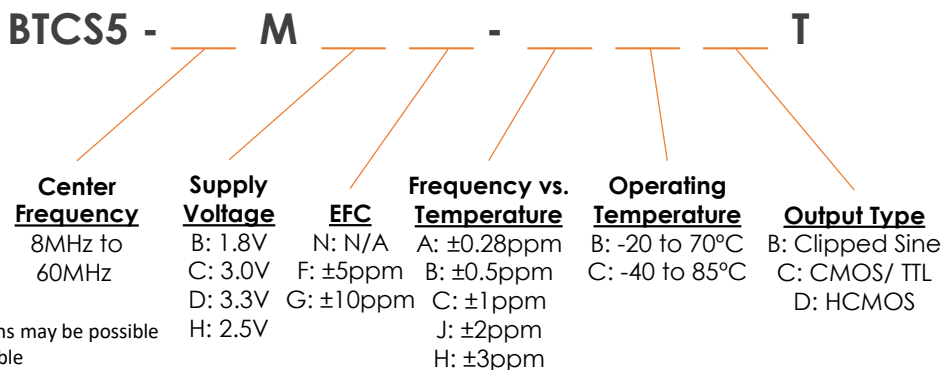
**Description**

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**



## Performance Specifications

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Frequency Range		8		60	MHz
Initial Frequency Tolerance <sup>1</sup>	Tested at +25°C			±2	ppm
Frequency Stability					
vs. Temperature	See options (max)	±0.28, ±0.5, ±1, ±2, ±3			ppm
vs. Load	10% Change			±0.3	ppm
vs. Supply Voltage	5% Change			±0.3	ppm
Aging					
1 <sup>st</sup> 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			4	7	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

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## Performance Specifications

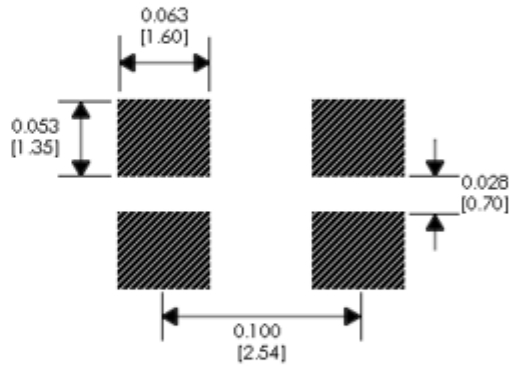
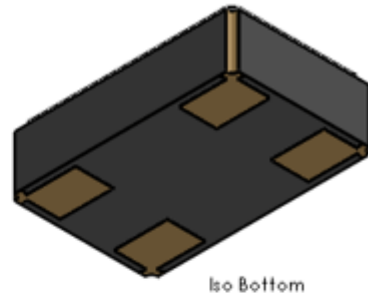
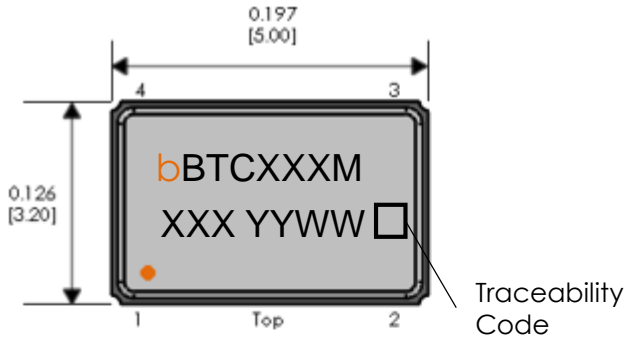
Parameter	Conditions	Values			Unit
Output Characteristics (CMOS/TTL)		MIN	TYP	MAX	
High Output Level	Logic "1"		90% V <sub>dd</sub>		
Low Output Level	Logic "0"				10% V <sub>dd</sub>
Rise/Fall Time				10	
Duty Cycle			45	50	55
Load				15	
Output Characteristics (Clipped-Sine)		MIN	TYP	MAX	
Output Level			0.8		
Load	±10%		10 K $\Omega$ //10 pf		

Parameter	Conditions	Values			Unit
Phase Noise			TYP		
Phase Noise (10 MHz)	Tested at +25°C				
	10Hz		-85		dBc/Hz
	100Hz		-120		dBc/Hz
	1kHz		-138		dBc/Hz
	10kHz		-142		dBc/Hz
	100kHz		-147		dBc/Hz

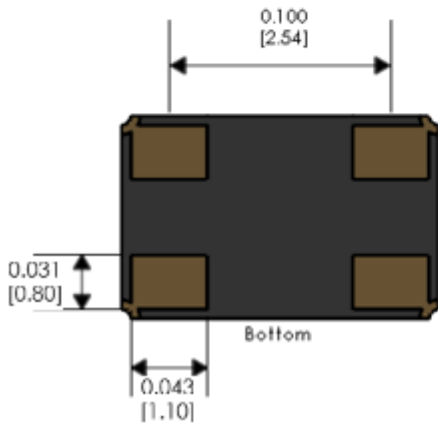
## Environmental Compliance

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				

# Physical Specifications



Recommended Landing Pattern



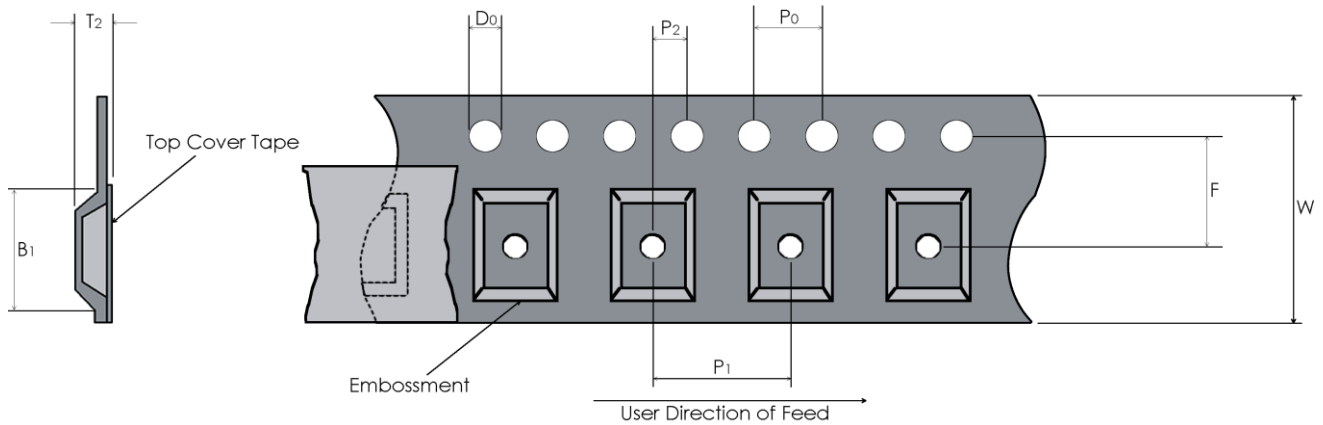
PIN	FUNCTION
1	EFC / N.C.
2	Ground
3	RF Output
4	Supply Voltage

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

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

# 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
12	5.5	1.5	4.0	8	2.0	5.5	1.7	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)