BOCS3-XXMXX-XXXX – Crystal Oscillator

bliley technologies

FEATURES

- ✓ SMD Construction
- ✓ Standard 3.2 x 2.5mm Package Size
- ✓ Mil-Std-202 Compliant

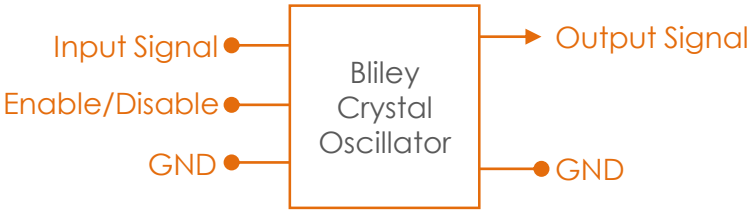
Avionics Grade Crystal Oscillator

#blileytakesyoufurther

Description

Bliley Crystal Oscillator are designed to meet the rigorous demands of QPL 55310. Bliley's single vertically integrated factory of Crystal and Oscillator Engineering allows quick-turn samples of custom frequencies to support short-term design cycle-times. Applications consisting of: Military, Instrumentation, SATCOM, and Telecommunications.

Block Diagram



Part Number Configuration

BOCS3 – ____ M __ __ – __ __ __ __

Center Frequency	Supply Voltage	Output Control	Frequency vs. Temperature	Operating Temperature	Output Type	Option
1.5MHz to 150MHz	B: 1.8V D: 3.3V	N: N/A E: Enable T: Tri-state	A: ±25ppm B: ±50ppm C: ±100ppm	B: -20°C to +70°C C: -40°C to +85°C D: -55°C to +125°C	C: CMOS/TTL D: HCMOS	T: Tape & Reel Y: T&R solder dipped

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

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Performance Specifications

Parameter	Conditions	Values			Unit
General		MIN	TYP	MAX	
Frequency Range		1.5		150.0	MHz
Frequency Stability					
Vs. Temperature(1°C Steps)	See Options (Max) Referenced to +25˚C		±25, ±50, ±100		ppm
Perturbation*				±3	ppm
Aging	1st Year			±3	ppm
Supply Voltage(Vdd)	Option B	1.62	1.8	1.98	Vdc
	Option D	2.97	3.3	3.63	Vdc
Current Consumption	1.5 – 10MHz			10	mA
	10 – 39MHz			20	mA
	40 – 60MHz			30	mA
	60 – 100MHz			40	mA
Output Control	Enabled-High Disabled-Low				
Startup Time				5	mSec
Moisture Sensitivity Level	1				

*Frequency variation from the fitted curve

Performance Specifications

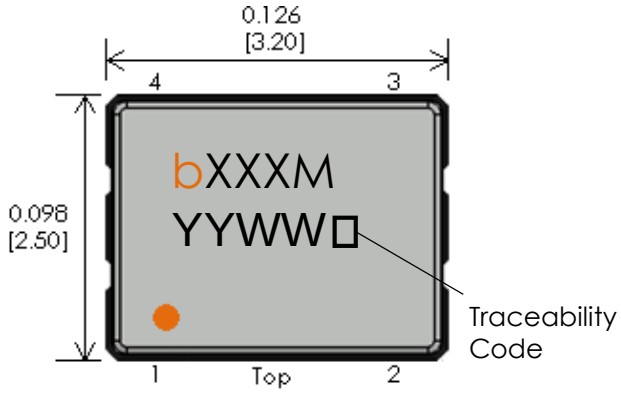
Parameter	Conditions	Values			Unit
Output Characteristics (CMOS/HCMOS)		MIN	TYP	MAX	
High Output Level	Logic "1"	90% Vdd			Vdc
Low Output Level	Logic "0"			10% Vdd	Vdc
Rise/Fall Time	10% ↔ 90%			4	nSec
Duty Cycle		45	50	55	%
Load			15		pF

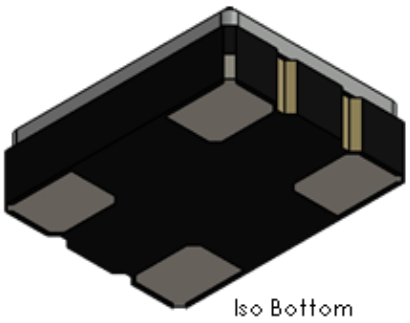
Parameter	Conditions	Values			Unit
Phase Noise (100MHz)		MIN	TYP	MAX	
Phase Noise	Tested at +25°C				
	1Hz		-45		dBc/Hz
	10Hz		-75		dBc/Hz
	100Hz		-105		dBc/Hz
	1KHz		-125		dBc/Hz
	10kHz		-135		dBc/Hz
	100kHz		-140		dBc/Hz
Phase Jitter (RMS)	12KHz-20MHz		1		pSec

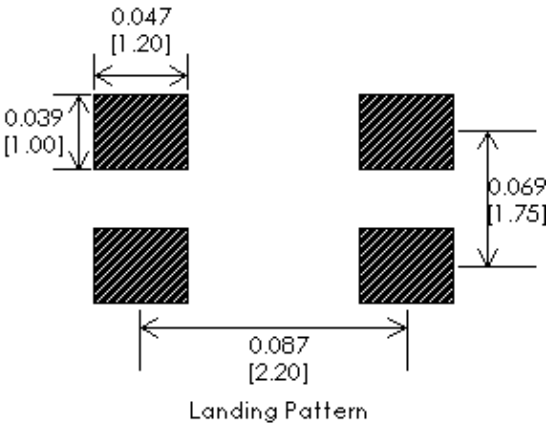
Environmental Compliance

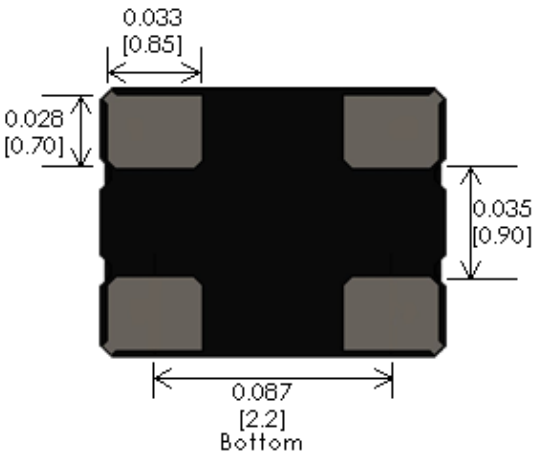
Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Operating Temperature	Option B	-20		+70	°C
	Option C	-40		+85	°C
	Option D	-55		+125	°C
Storage Temperature		-55		+125	°C
Solderability	MIL-STD-202 Method 208				
Solvents Resistance	MIL-STD-202 Method 215				
Shock	MIL-STD-202 Method 213 Test Condition I				
Vibration	MIL-STD-202 Method 204 Test Condition C & D				
Thermal Shock	MIL-STD-202 Method 107 Test Condition B-1				
Seal	MIL-STD-202 Method 112 Test Condition C & D				
Powered Burn In	MIL-STD-883 Method 1015 Test Condition B +125C for 168 hrs				

Physical Specifications









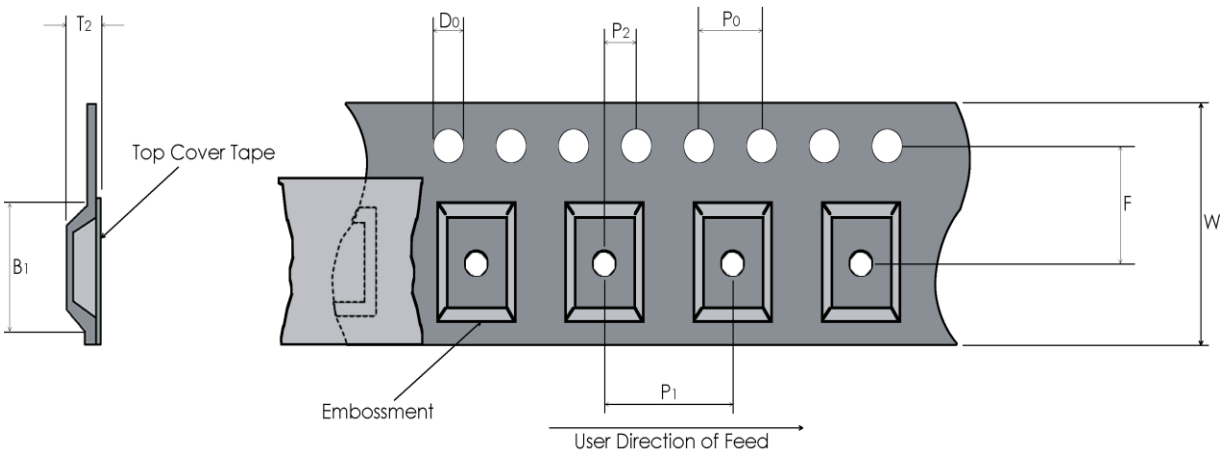
PIN	FUNCTION
1	Output Control
2	Ground
3	RF Output
4	Supply Voltage

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.)
- Solder dipped (Sn60/Pb40 3% lead min) upon request

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
8	5.25	1.5	4.0	4.0	2.0	3.5	1.8	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)