BOCS6-XXXMXX-XXXT – Crystal Oscillator

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FEATURES

- ✓ Low Jitter
- ✓ SMD Construction
- ✓ Standard 5X3.2 mm Package Size
- ✓ Mil-Std-202 Compliant

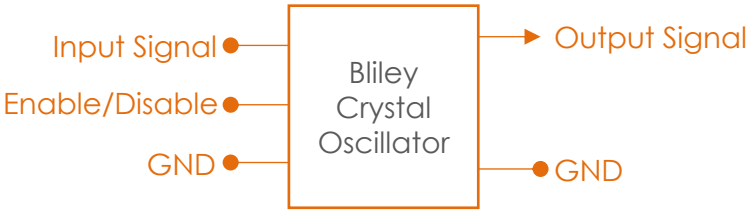
Avionics Grade Crystal Oscillator

#blileytakesyoufurther

Description

Bliley Crystal Oscillators 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

BOCS6 – ____ M __ __ – __ __ __ __

Center Frequency	Supply Voltage	Output Control	Frequency vs. Temperature	Operating Temperature	Output Type	Option
10MHz to 245MHz	D: 3.3V G: 2.5V	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 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		10.0		245.0	MHz
Frequency Stability (1°C Steps)	Over Temp, Load, Setting, & Supply		±25, ±50, ±100		ppm
Perturbation				±3	ppm
Age Stability	1st Year			±3	ppm
Supply Voltage (Vdd)	Option G	2.38	2.50	2.63	Vdc
	Option D	3.13	3.30	3.47	Vdc
Current Consumption			25	50	mA
Output Control	Enabled-High Disabled-Low				
Start Up Time			3	10	mSec
Moisture Sensitivity Level	1				

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Performance Specifications

Parameter	Conditions	Values			Unit
Output Characteristics (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%		1.5	3	nSec
Duty Cycle		45	50	55	%
Load			15		pF

Parameter	Conditions	Values			Unit
Phase Noise		MIN	TYP	MAX	
Phase Noise (@125MHz)	Tested at +25°C				
	100Hz		-80		dBc/Hz
	1kHz		-115		dBc/Hz
	10kHz		-135		dBc/Hz
	100kHz		-142		dBc/Hz
	1Mhz		-147		dBc/Hz
Phase Jitter (@125MHz)	12kHz - 20MHz, RMS			1.0	pSec

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Environmental Compliance

Parameter	Conditions	Values			Unit
		MIN	TYP	MAX	
Operating Temperature	Option B	-20		+70	°C
Operating Temperature	Option C	-40		+85	°C
Operating Temperature	Option D	-55		+125	°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				

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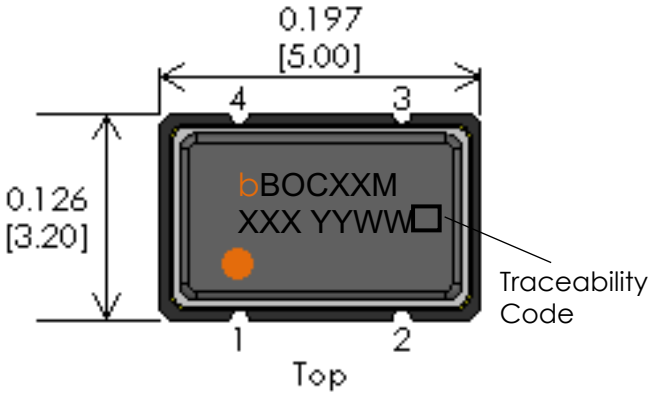
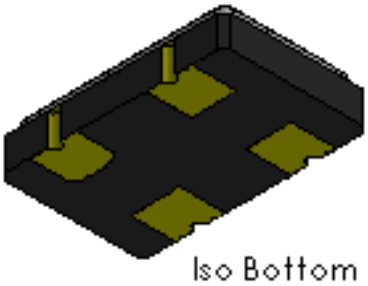
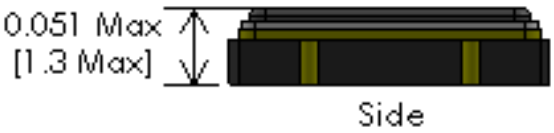
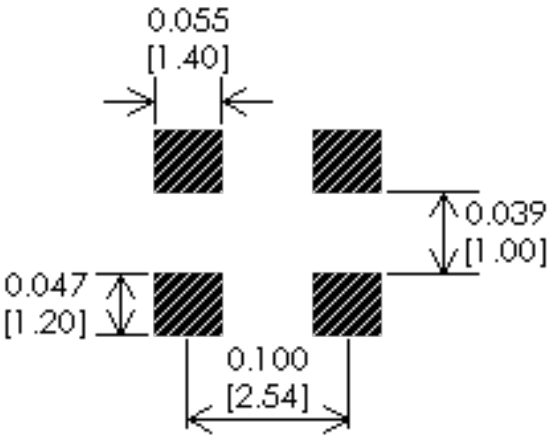
Physical Specifications

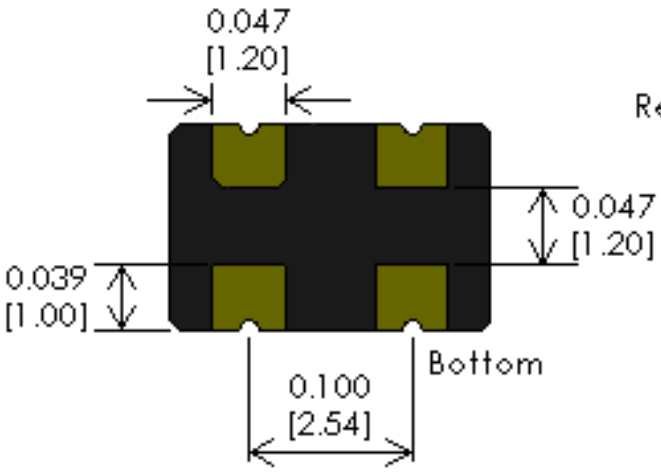








Recommended Landing Pattern



PIN	HCMOS
1	Output Control or N.C
2	Ground
3	RF Output
4	Supply Voltage

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

RoHS COMPLIANT · Certified System Quality ISO 9001 SAI GLOBAL · REACH COMPLIANCE · AS 9100D CERTIFIED ISO 9001

Notes
Connection Pads:
- Gold(10-40 µ in.) over Nickel (100-250 µ in.)
- Solder dipped (Sn60/Pb40 3% lead min) upon request

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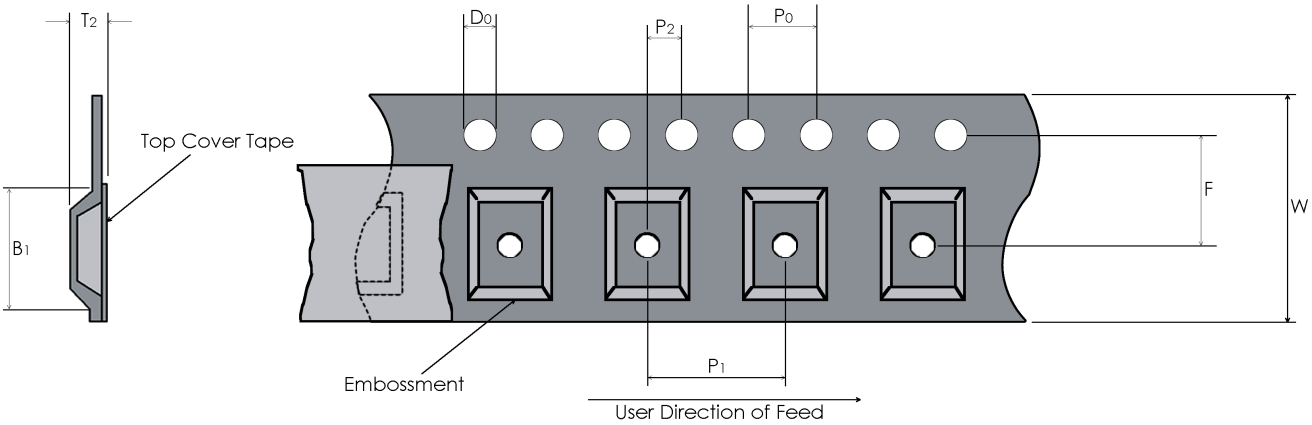
Tape and Reel

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
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)

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