

FEATURES

- ✓ SMD Construction
- ✓ Standard 2.5 x 2.0mm Package Size
- ✓ Mil-Std-202 Compliant

Crystal Oscillator

#blileytakesyoufurther

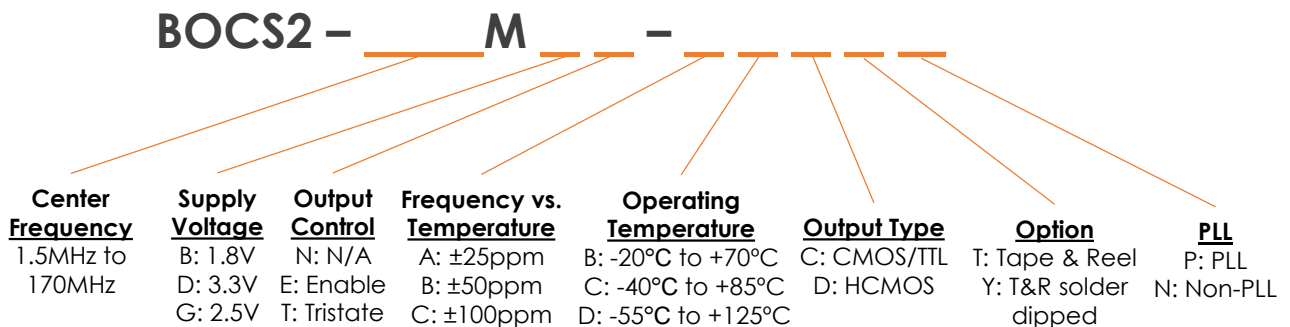
Description

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



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

Performance Specifications

| Parameter | Conditions | Values | | | Unit |
|----------------------------|--|----------------|-----|-----------|------|
| | | MIN | TYP | MAX | |
| General | | MIN | TYP | MAX | |
| Frequency Range | | 1.5 | | 170 | MHz |
| Frequency Range | Fundamental 3 rd Overtone(Non-PLL) | 1.5 50 | | 60 170 | 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 |
| | 5 Years | | | ±5 | ppm |
| Supply Voltage(Vdd) | Option B | 1.62 | 1.8 | 1.98 | Vdc |
| | Option D | 2.97 | 3.3 | 3.63 | Vdc |
| | Option G | 2.25 | 2.5 | 2.75 | Vdc |
| Current Consumption | 1.5 – 19MHz | | | 6 | mA |
| | 20 – 39MHz | | | 7 | mA |
| | 40 – 60MHz | | | 8 | mA |
| | 60 – 100MHz | | | 10 | mA |
| Output Control | Enabled-High Disabled-Low | | | | |
| Startup Time | | | | 5 | mSec |
| Moisture Sensitivity Level | 1 | | | | |

Performance Specifications

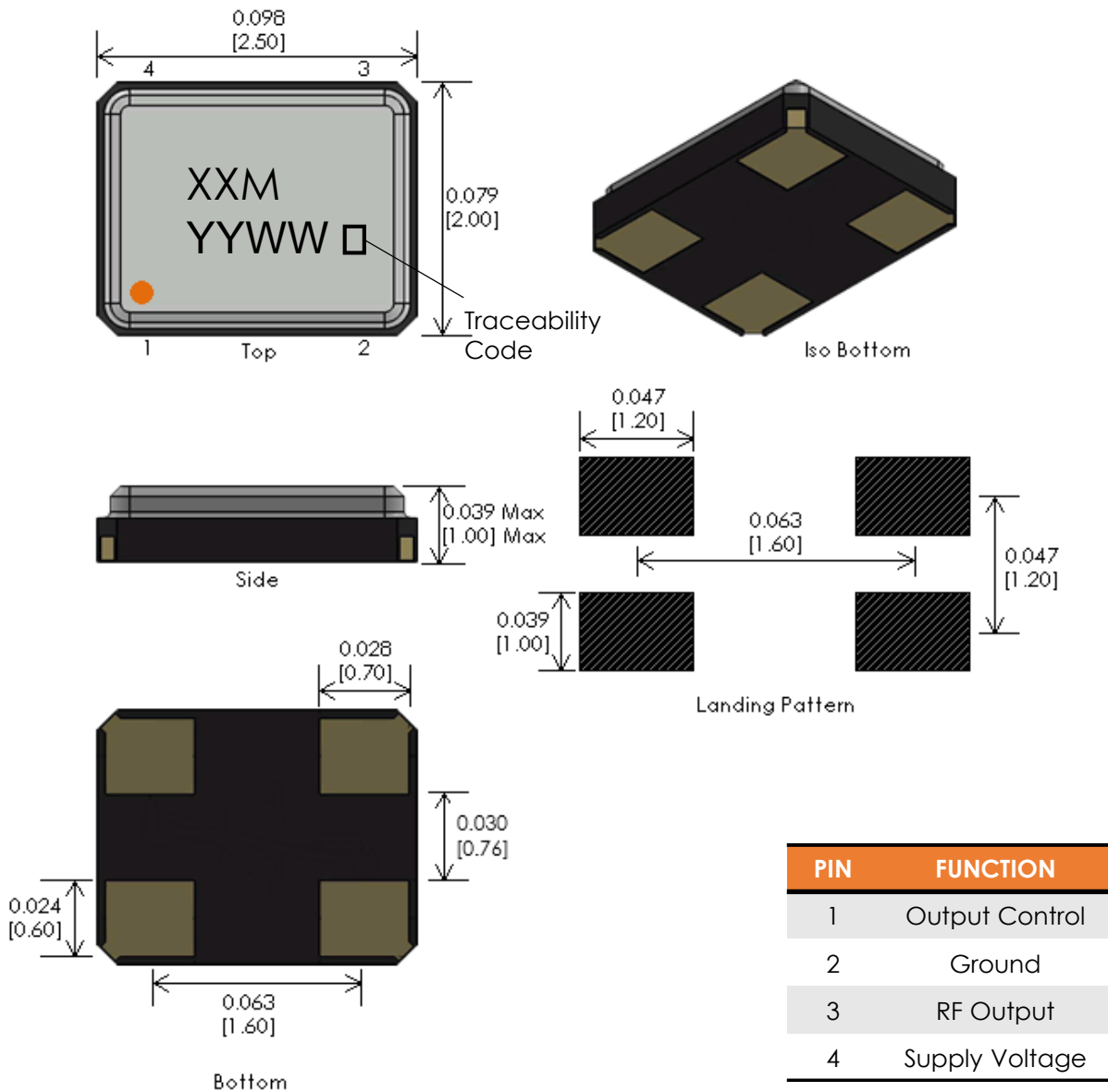
| Parameter | Conditions | Values | | | Unit |
|--------------------------------|------------|---------|-----|-----|------|
| | | MIN | TYP | MAX | |
| Output Characteristics (HCMOS) | | | | | |
| High Output Level | Logic "1" | 90% Vdd | | | Vdc |
| Low Output Level | Logic "0" | 10% Vdd | | | Vdc |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

| Parameter | Conditions | Values | | Unit |
|----------------------|-----------------|--------|---------|--------|
| | | PLL | Non-PLL | |
| Phase Noise (100MHz) | | | | |
| Phase Noise | Tested at +25°C | | | |
| | 10Hz | -60 | -60 | dBc/Hz |
| | 100Hz | -95 | -95 | dBc/Hz |
| | 1KHz | -114 | -125 | dBc/Hz |
| | 10kHz | -120 | -135 | dBc/Hz |
| | 100kHz | -140 | -144 | dBc/Hz |
| Phase Jitter (RMS) | 12KHz-20MHz | 1 | 0.2 | 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 | | | | |
| Thermal Shock | MIL-STD-202 Method 107 Test Condition B-1 | | | | |
| Seal | MIL-STD-202 Method 112 Test Condition C & D | | | | |

Physical Specifications



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



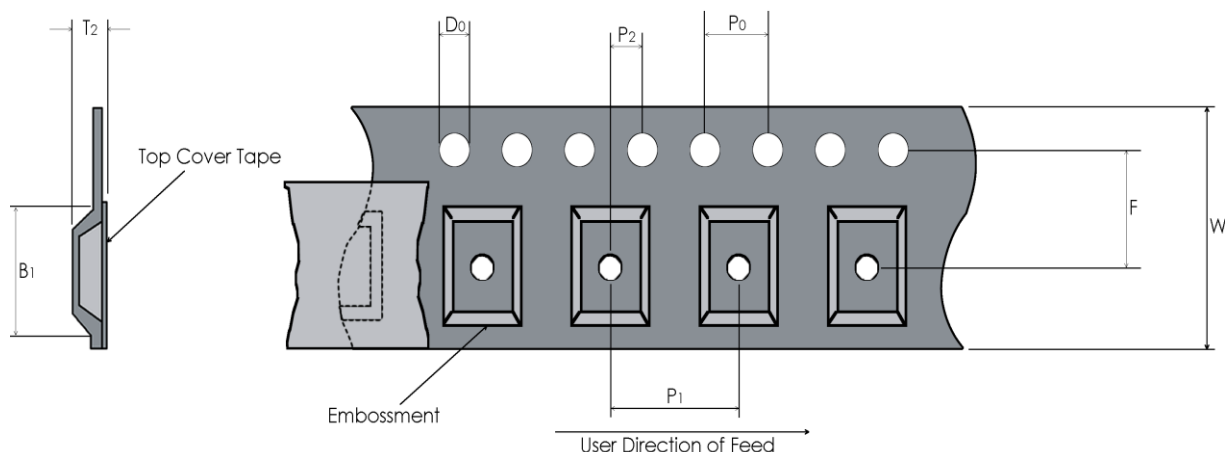
Notes

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

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 |
| 8 | 3.5 | 1.5 | 4.0 | 4.0 | 2.0 | 3.5 | 1.0 | 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

Packaging

Packaging: All packaging must conform to ESD Controls detailed in ANSI/ESD S20.20 (Latest Revision)