# BOVTB-XXXMXX-XXXB – 36x27 OCXO

bliley technologies

## FEATURES

- ✓ High Stability vs. Temperature
- ✓ Quick Warm-Up Time
- ✓ Low Age Rates
- ✓ Low Phase Noise
- ✓ 36x27mm Package

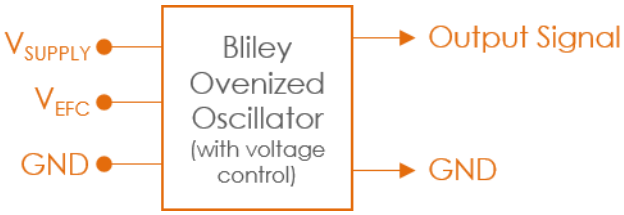
**Oven Controlled Oscillator**

#blileytakesyoufurther

## Description

Bliley high performance OXCO product offering is a result of 85 years in the Frequency Control Industry. Modern layout topologies enable Bliley to engineer and produce robust designs for all applications.

## Block Diagram




## Part Number Configuration

**BOVTB - ___ M ___ - ___ ___ B**

| Center Frequency | Supply Voltage | EFC | Frequency vs. Temperature | Operating Temperature | Output Type |
|---|---|---|---|---|---|
| 10MHz to 100MHz | E: 5V<br>F: 12V | N: N/A<br>A: ±0.5ppm<br>B: ±1ppm | D: ±20ppb<br>E: ±50ppb<br>F: ±100ppb | B: -20 to 70°C<br>C: -40 to 85°C | A: Sine<br>C: CMOS TTL |

*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 Range | | 10 | | 100 | MHz |
| Initial Tolerance | @ +25°C±1°C | | | ±100 | ppb |
| Warm Up Time | To initial tolerance | | | 3 | Min |
| Frequency Stability | | | | | |
| vs. Temperature | See Options (Max) Referenced to +25°C | | ±20, ±50, ±100 | | ppb |
| vs. Load | ± 5% Δ in Load | | ±2 | | ppb |
| vs. Supply Voltage | ± 5% Δ in supply | | ±2 | | ppb |
| ADEV (Short Term Stability) | T = 1 second | | 5E-12 | | |
| Aging | After 30 Days Operation | | | | |
| Per Day | | | | ±1.0 | ppb |
| 1st Year | | | | ±100 | ppb |
| Supply Voltage (Vdd) | Option E | 4.75 | 5 | 5.25 | Vdc |
| | Option F | 11.4 | 12 | 12.6 | Vdc |
| Power Dissipation | | | | | |
| Start Up | @ +25°C | | | 7 | W |
| Steady State | @ +25°C | | 2.0 | | W |
| Electronic Frequency Control | | | | | |
| Voltage Range | | 0 | | Vdd | Vdc |
| Center Voltage | | | Vdd/2 | | Vdc |
| Frequency Range | See Options (Min) | ±0.5, ±1 | | | ppm |
| Slope | | | positive | | |
| Input Impedance | | | 100 | | kΩ |
| Linearity | | | 10 | | % |

Note: Values typical of 10MHz units

# Performance Specifications

| Parameter | Conditions | Values | | | Unit |
|---|---|---|---|---|---|
| Output Characteristics (CMOS/TTL) | | MIN | TYP | MAX | |
| High Output Level | Logic "1" | 90% Vdd | | | Vdc |
| Low Output Level | Logic "0" | | | 10% Vdd | Vdc |
| Rise/Fall Time | | | | 10 | nSec |
| Duty Cycle | | 45 | 50 | 55 | % |
| Load | | | 15 | | pF |
| Output Characteristics (Sinusoid) | | MIN | TYP | MAX | |
| Output Level | | | 7.0 | | dBm |
| VSWR | Into 50 Ω | | 1.5:1 | | |
| Harmonics | | | | -30 | dBc |
| Load | | 45 | 50 | 55 | Ω |

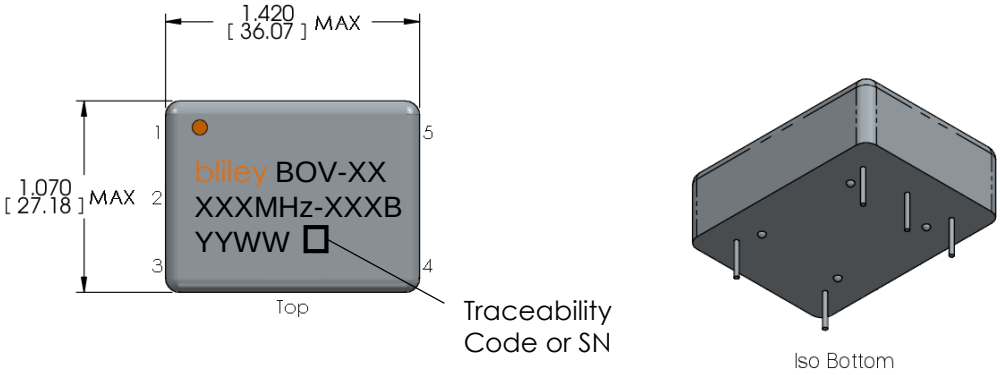
| Parameter | Conditions | Values | | Unit |
|---|---|---|---|---|
| Phase Noise | | TYP | TYP | |
| Phase Noise (10 MHz) | Tested at +25°C | Sinusoid | CMOS | |
| | 1Hz | -90 | -90 | dBc/Hz |
| | 10Hz | -120 | -120 | dBc/Hz |
| | 100Hz | -145 | -145 | dBc/Hz |
| | 1kHz | -150 | -150 | dBc/Hz |
| | 10kHz | -155 | -155 | dBc/Hz |
| | 100kHz | -160 | -160 | dBc/Hz |

Note: Values typical of 10MHz units

# Environmental Compliance

| Parameter | Conditions | Values | | | Unit |
|---|---|---|---|---|---|
| | | MIN | TYP | MAX | |
| Operating Temperature | Option B | -20 | | +70 | °C |
| | Option C | -40 | | +85 | °C |
| Storage Temperature | | -55 | | +100 | °C |
| Seal | MIL-STD-202 Method 112<br>Test Condition D | | | | |
| Mechanical Shock | MIL-STD-202 Method 213<br>Test Condition J | | | | |
| Vibration | MIL-STD-202 Method 201 | | | | |

# Physical Specifications




| PIN | FUNCTION |
|---|---|
| 1 | EFC/N.C. |
| 2 | N.C |
| 3 | Supply Voltage |
| 4 | RF Output |
| 5 | Ground |

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

Notes:
- None