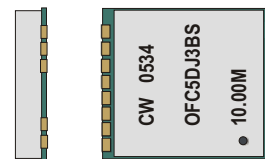


CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT 5.0V OCXO with SINEWAVE OUTPUT



OFC5DJ3BS

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

| PARAMETER | UNITS | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---------------------|-------|---------|---------|---------|-------|------|
| Storage Temperature | | -40 | - | 85 | °C | |
| Supply Voltage | (Vcc) | -0.5 | - | 7 | Vdc | |

OPERATING SPECIFICATIONS

TABLE 2.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---|-------|-----------------------------------|----------|---------|---------|------|
| Center Frequency | (Fo) | 10 | - | 20 | MHz | 1 |
| Standard Frequencies Available: | | 10 MHz, 13 MHz, 15 MHz, or 20 MHz | | | | |
| Frequency Calibration | | -0.2 | - | 0.2 | ppm | 2 |
| Frequency vs. Temperature Stability | | -20 | - | 20 | ppb | 3 |
| Frequency vs. Voltage Stability (+/-5%) | | -2 | - | 2 | ppb | |
| Frequency vs. Load Stability (+/-5%) | | -2 | - | 2 | ppb | |
| Aging: Daily | | -1 | - | 1 | ppb/day | 4 |
| Aging: First Year | | -50 | - | 50 | ppb | |
| Aging: Long Term (20 Years) | | -250 | - | 250 | ppb | |
| Total Frequency Tolerance (20 years) | | -500 | - | 500 | ppb | 5 |
| Allen Variance: 1 second, 100 average. | | - | 1.00E-10 | - | RMS | |
| Operating Temperature Range | | -20 | - | 70 | °C | |
| Supply Voltage | (Vcc) | 4.75 | 5.00 | 5.25 | Vdc | |
| Power Consumption: Turn On | | - | - | 3.75 | W | 6 |
| Power Consumption: Steady-State | | - | - | 1.5 | W | 6 |
| Start-Up Time | | | | 500 | mS | 7 |
| Warm Up | | -100 | - | 100 | ppb | 8 |

SINEWAVE OUTPUT CHARACTERISTICS

TABLE 3.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---------------------------------|--|---------|---------|---------|--------|------|
| LOAD | | 45 | 50 | 55 | Ohms | |
| Output Power | | 0 | 3 | - | dBm | |
| Spurious Output | | | | -80 | dBc | |
| SSB Phase Noise at 1Hz offset | | - | -85 | - | dBc/Hz | |
| SSB Phase Noise at 10Hz offset | | - | -110 | - | dBc/Hz | |
| SSB Phase Noise at 100Hz offset | | - | -135 | - | dBc/Hz | |
| SSB Phase Noise at 1KHz offset | | - | -150 | - | dBc/Hz | |
| SSB Phase Noise at 10KHz offset | | - | -155 | - | dBc/Hz | |

RESTALLIZATION TIME

TABLE 4.0

| Off Time | Restabilization Time | NOTE |
|--------------|-----------------------|------|
| < 1 Hour | < 2 Hours | 9 |
| < 6 Hours | < 12 Hours | 9 |
| < 24 Hours | < 48 Hours | 9 |
| 1 to 16 Days | 48 Hours + ¼ Off Time | 9 |
| > 16 Days | < 6 Days | 9 |

PACKAGE CHARACTERISTICS

TABLE 5.0

| | |
|---------|--|
| Package | Non-hermetic package consisting of an FR4 substrate with grounded metal cover. |
|---------|--|

ENVIRONMENTAL CHARACTERISTICS

TABLE 6.0

| | |
|-----------|--|
| Shock | 100G's, 6mS, halvesine per MIL-STD-202F, Method 213B, Test Condition C |
| Vibration | 0.06" D.A. or 10G peak 10 to 500 Hz, per MIL-STD-202F, Method 204D, Test condition A |

PROCESS RECOMMENDATIONS

TABLE 7.0

| | |
|---------------|--|
| Solder Reflow | The component solder used internal to this device has a melting point of 221 C. The peak temperature inside the device should be less than or equal to 220 C for a maximum of 10 seconds |
| Wash | Ultrasonic cleaning is not recommended. |

DESCRIPTION

The Connor-Winfield OFC5DJ3BS is a 5V Surface Mount Oven Controlled Crystal Oscillator (OCXO) with a Sinewave output. The OFC5J3BS is designed for Wireless applications requiring low Phase Noise and tight frequency stability.

FEATURES

- FIXED FREQUENCY OXCO
- FREQUENCY STABILITY: ±20ppb
- TEMPERATURE RANGE: -20 to 70°C
- 5.0V OPERATION
- SINEWAVE OUTPUT
- LOW PHASE NOISE
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING

ORDERING INFORMATION

OFC5DJ3BS - 10.00MHz

OCXO SERIES CENTER FREQUENCY

Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

Notes:

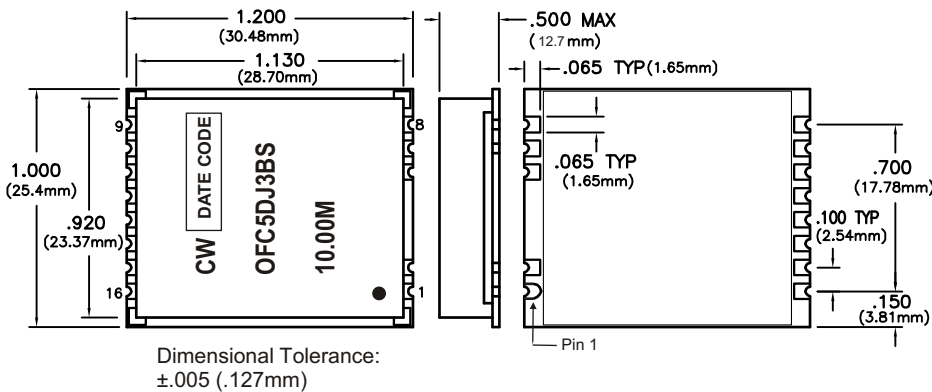
- 1) Labels will include the calibration frequency at the time of ship.
- 2) Initial calibration @ 25 C at the time of shipment.
- 3) Overall frequency stability referenced to measurement at 25 C.
- 4) After ten days of continuous operation.
- 5) Inclusive of calibration, frequency stability vs. change in temperature, supply voltage change, load change, hock and vibration, 20 years aging.
- 6) Vcc = 5.0Vdc.
- 7) From Vcc=90% of final value. No more than 16 transitions at start-up before oscillator has started.
- 8) Measured @ 0 C, within 5 minutes, referenced one hour after turn-on.
- 9) For a given off time, the time required to meet daily aging, short-term stability.

PIN CONNECTIONS

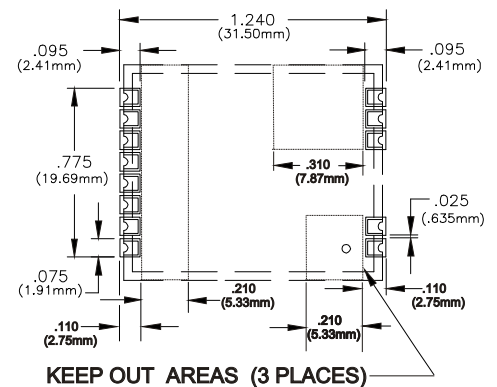
TABLE 8.0

| Pin | Function |
|-----|----------|
| 1 | N/C |
| 2 | Ground |
| 6 | N/C |
| 7 | Ground |
| 8 | Vcc |
| 9 | Vcc |
| 10 | Ground |
| 11 | Ground |
| 12 | N/C |
| 13 | Ground |
| 14 | Output |
| 15 | Ground |
| 16 | N/C |

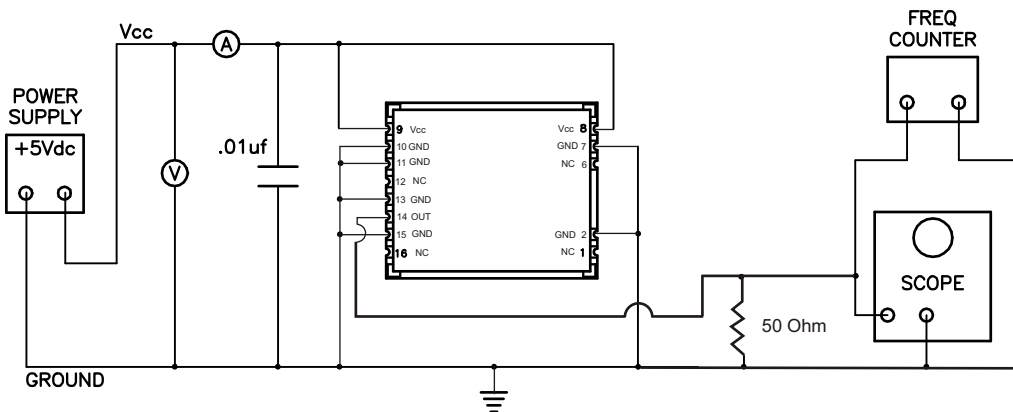
PACKAGE LAYOUT



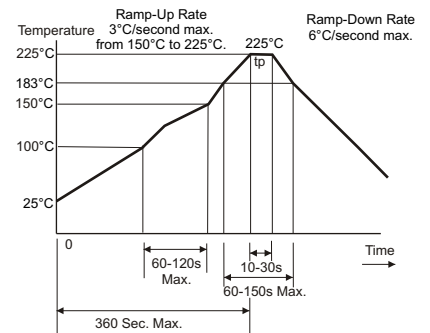
SUGGESTED PAD LAYOUT (TOP VIEW)



TEST CIRCUIT



SOLDER PROFILE



Specifications subject to change without notice.