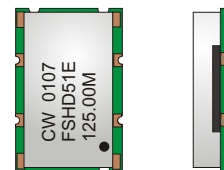


CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT HCMOS CLOCK



FSHD51E

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 |
|----------------------------------|-------------------|---------|---------|---------|--------|------|
| Frequency Range | (Fo) | 1.8 | - | 170 | MHz | |
| Total Frequency Tolerance | | -25 | - | 25 | ppm | 1 |
| Operating Temperature Range | | 0 | - | 70 | °C | |
| Supply Voltage | (Vcc) | 4.50 | 5.00 | 5.50 | Vdc | |
| Supply Current | 1.8 to 31.999 MHz | (Icc) | - | 40 | mA | |
| | 32 to 66.999 MHz | (Icc) | - | 50 | mA | |
| | 67 to 124.999 MHz | (Icc) | - | 80 | mA | |
| | 125 to 170 MHz | (Icc) | - | 90 | mA | |
| Jitter (BW=10Hz to 20MHz) | | - | - | 5 | ps rms | |
| Jitter (BW=12kHz to 20MHz) | | - | - | 1 | ps rms | |
| SSB Phase Noise at 10Hz offset | | - | -60 | - | dBc/Hz | |
| SSB Phase Noise at 100Hz offset | | - | -90 | - | dBc/Hz | |
| SSB Phase Noise at 1KHz offset | | - | -125 | - | dBc/Hz | |
| SSB Phase Noise at 10KHz offset | | - | -135 | - | dBc/Hz | |
| SSB Phase Noise at 100KHz offset | | - | -140 | - | dBc/Hz | |

INPUT CHARACTERISTICS

TABLE 3.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---------------------------|-------|---------|---------|---------|-------|------|
| Tri-state Enable Voltage | (Vih) | ≥70%Vcc | - | - | Vdc | 2 |
| Tri-state Disable Voltage | (Vil) | - | - | ≤30%Vcc | Vdc | 2 |

HCMOS OUTPUT CHARACTERISTICS

TABLE 4.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|-----------------------------|--------|---------|------------|------------|-------|------|
| LOAD | | - | - | 50 | pF | |
| Voltage | (High) | (Voh) | ≥ 0.9(Vcc) | - | Vdc | |
| | (Low) | (Vol) | - | ≤ 0.1(Vcc) | Vdc | |
| Current | (High) | (Ioh) | -16 | - | mA | |
| | (Low) | (Ioh) | - | 16 | mA | |
| Duty Cycle at 50% of Vcc | | 45 | 50 | 55 | % | |
| Rise / Fall Time 10% to 90% | | - | 3 | 5 | nS | |

PACKAGE CHARACTERISTICS

TABLE 5.0

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

PROCESS RECOMMENDATIONS

TABLE 6.0

| | |
|---------------|--|
| 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. |

Note:

- Inclusive of calibration, frequency vs. temperature stability, supply voltage change, load change, shock and vibration, 20 years aging.
- Oscillator output is enabled with no connection on pad 1

DESCRIPTION

The Connor-Winfield FSHD51E is a 5.0V, surface mount, Crystal Controlled Oscillator (XO) HCMOS / TTL Compatible. The FSHD51E is designed for applications requiring high frequency, low jitter and tight frequency stability.

FEATURES

- 5.0V OPERATION
- FREQUENCY TOLERANCE ±25ppm
- TEMPERATURE RANGE: 0 to 70°C
- LOW JITTER <1ps RMS
- TRI-STATE ENABLE/DISABLE
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING

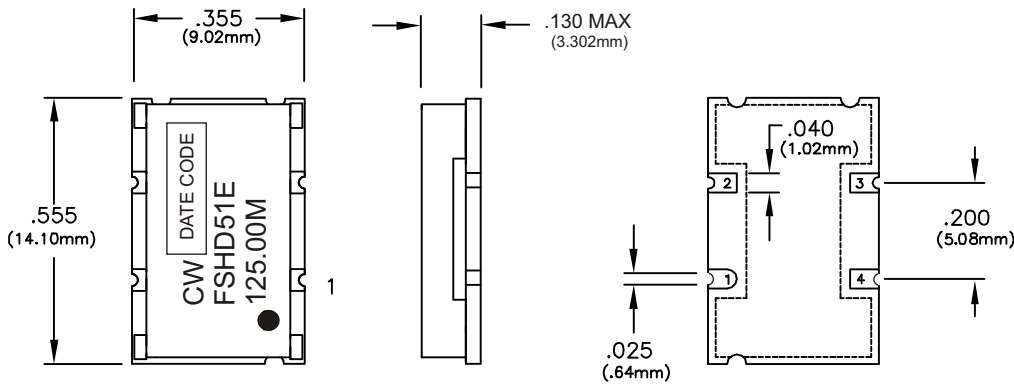
ORDERING INFORMATION

FSHD51E - 125.00 MHz



Specifications subject to change without notice.

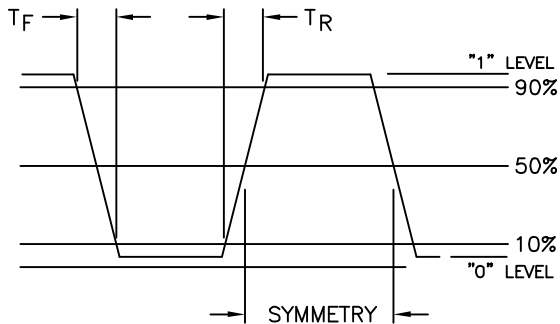
CRYSTAL CONTROLLED OSCILLATORS



| PIN | CONNECTION |
|-----|----------------|
| 1 | ENABLE/DISABLE |
| 2 | GROUND |
| 3 | OUTPUT |
| 4 | Vcc |

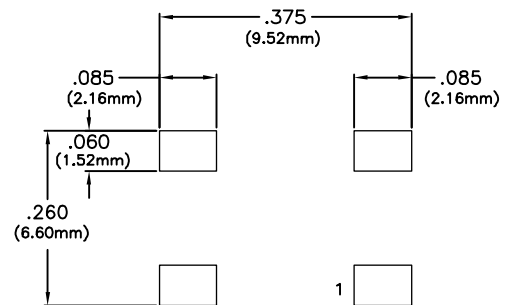
Dimensional Tolerance:
±.005 (.127mm)

OUTPUT WAVEFORM

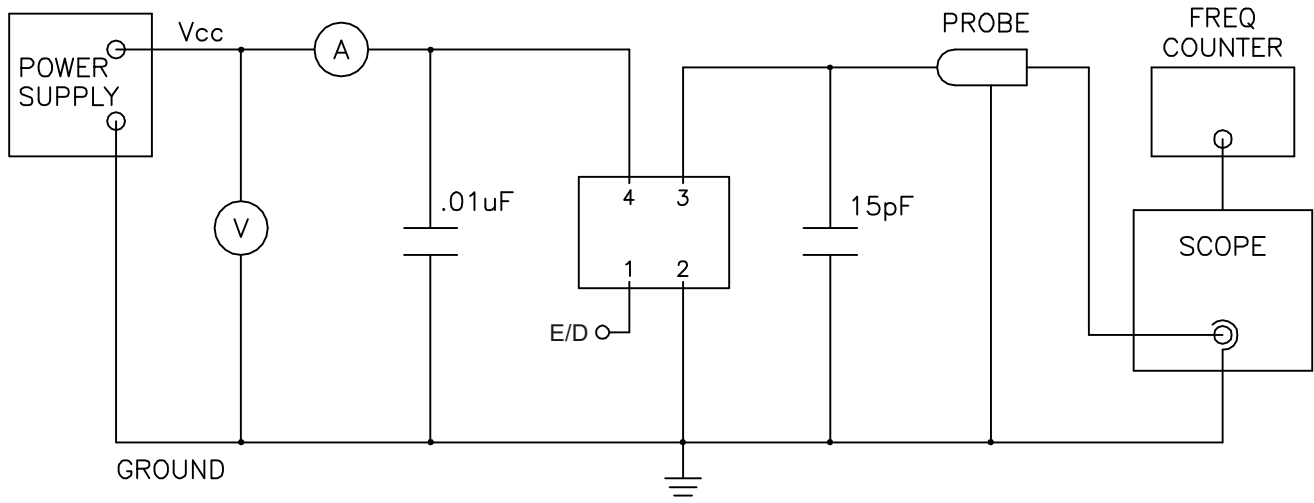


SUGGESTED PAD LAYOUT

(TOP VIEW)



TEST CIRCUIT



Specifications subject to change without notice.