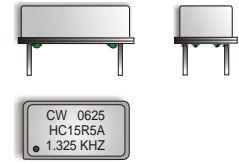


CRYSTAL CONTROLLED OSCILLATORS

3.3V LVCMOS 14 PIN DIP CRYSTAL CLOCK OSCILLATOR



HC15R5A
HC14R5A
HC13R5A

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

| PARAMETER | UNITS | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---------------------|-------|---------|---------|---------|-------|------|
| Storage Temperature | | -55 | - | 125 | °C | |
| Supply Voltage | (Vcc) | -0.5 | - | 7.0 | Vdc | |

MODEL SPECIFICATIONS:

MODEL HC15R5A

TABLE 2.0

| PARAMETER | UNITS | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|-----------------------------|-------|---------|---------|---------|-------|------|
| Frequency Range | (Fo) | 1.0 KHz | - | 1.0 MHz | | |
| Frequency Tolerance: | | -100 | - | 100 | ppm | 1 |
| Operating Temperature Range | | 0 | - | 70 | °C | |

MODEL HC14R5A

| PARAMETER | UNITS | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|-----------------------------|-------|---------|---------|---------|-------|------|
| Frequency Range | (Fo) | 1.0 KHz | - | 1.0 MHz | | |
| Frequency Tolerance: | | -50 | - | 50 | ppm | 1 |
| Operating Temperature Range | | 0 | - | 70 | °C | |

MODEL HC13R5A

| PARAMETER | UNITS | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|-----------------------------|-------|---------|---------|---------|-------|------|
| Frequency Range | (Fo) | 1.0 KHz | - | 1.0 MHz | | |
| Frequency Tolerance: | | -25 | - | 25 | ppm | 1 |
| Operating Temperature Range | | 0 | - | 70 | °C | |

OPERATING SPECIFICATIONS

TABLE 3.0

| PARAMETER | UNITS | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|----------------|-------|---------|---------|---------|-------|------|
| Supply Voltage | (Vdd) | 3.135 | 3.3 | 3.465 | Vdc | |
| Supply Current | (Icc) | - | - | 30 | mA | |

LVCMOS OUTPUT CHARACTERISTICS

TABLE 4.0

| PARAMETER | UNITS | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---|-------|----------|---------|---------|--------|------|
| LOAD | | - | - | 15 | pF | |
| Voltage (High) | (Voh) | Vcc-0.5V | - | - | Vdc | |
| (Low) | (Vol) | - | - | 0.4 | Vdc | |
| Current (High) | (Ioh) | -8 | - | - | mA | |
| (Low) | (Iol) | - | - | 8 | mA | |
| Duty Cycle measured at 50% of Vcc | | 45 | 50 | 55 | % | |
| Rise / Fall Time measured at 10% to 90% | | - | 3 | 6 | ns | |
| Start-Up Time | | - | 3 | 10 | ms | |
| Jitter (BW=10Hz to 20MHz) | | - | - | 5 | ps rms | |
| Jitter (BW=12kHz to 20MHz) | | - | - | 1 | ps rms | |

PACKAGE CHARACTERISTICS

TABLE 5.0

| | |
|---------|-----------------------------------|
| Package | Hermetically sealed metal package |
|---------|-----------------------------------|

Note:

- Inclusive of calibration @ 25°C, frequency vs. temperature stability, supply voltage change, load change, shock and vibration, 10 years aging.

DESCRIPTION

Connor Winfield models HC15R5A, HC14R5A and HC13R5A are 3.3V LVCMOS, fixed frequency Crystal Oscillators (XO). The HC15R5A, HC14R5A and HC13R5A are designed for use in all applications requiring a precision clock.

FEATURES

FREQUENCY RANGE: 1.0 KHZ to 1.0 MHZ

3.3V OPERATION

OVERALL FREQUENCY TOLERANCE:
HC15R5A ±100ppm
HC14R5A ±50ppm
HC13R5A ±25ppm

TEMPERATURE RANGE: 0 to 70°C

LOW JITTER: <1 PS

HERMETICALLY SEALED PACKAGE

ORDERING INFORMATION

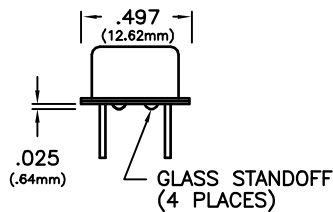
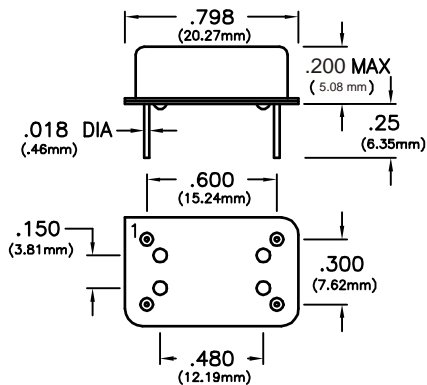
HC15R5A - 1.325 KHz

CLOCK
SERIES

CENTER
FREQUENCY

Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

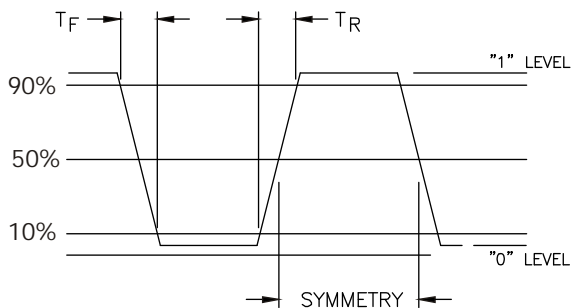


Dimensional Tolerance:
±.005 (.127mm)
±.02 (.508mm)

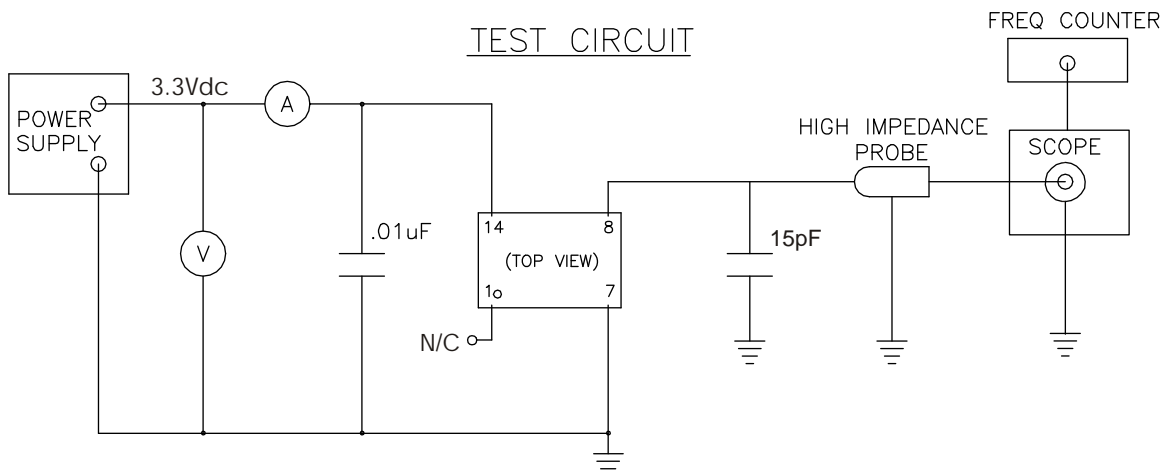
TABLE 6.0

| Pin | Connection |
|-----|------------|
| 1 | N/C |
| 7 | Ground |
| 8 | Output |
| 14 | Vcc |

OUTPUT WAVEFORM



TEST CIRCUIT



Specifications subject to change without notice.