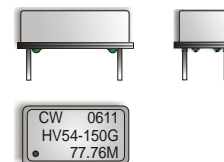


CRYSTAL CONTROLLED OSCILLATORS

14 PIN 5.0V HCMOS VCXO HIGH FREQUENCY



ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

| PARAMETER | UNITS | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---------------------|-------|---------|---------|---------|-------|------|
| Storage Temperature | | -55 | - | 125 | °C | |
| Supply Voltage | (Vcc) | -0.5 | - | 7 | Vdc | |
| Control Voltage | (Vc) | -0.5 | - | 7 | Vdc | |

MODEL SPECIFICATIONS

MODEL NUMBER

TABLE 2.0

| MODEL NUMBER | Frequency Stability: | | | | | |
|--------------|----------------------|------|---|-----|-----|---|
| HV51-xxxG | Frequency Stability: | -25 | - | 25 | ppm | 1 |
| HV52-xxxG | Frequency Stability: | -50 | - | 50 | ppm | 1 |
| HV53-xxxG | Frequency Stability: | -100 | - | 100 | ppm | 1 |
| HV54-xxxG | Frequency Stability: | -20 | - | 20 | ppm | 1 |
| HV55-xxxG | Frequency Stability: | -10 | - | 10 | ppm | 1 |

Pullability Codes (xxx - Add code to the end of the Model Number)

TABLE 3.0

| Pullability Code | Frequency Pullability: | | | | | |
|------------------|------------------------|------|---|---|-----|------|
| 050 | Frequency Pullability: | ±25 | - | - | ppm | 2 |
| 100 | Frequency Pullability: | ±50 | - | - | ppm | 2 |
| 150 | Frequency Pullability: | ±75 | - | - | ppm | 2 |
| 160 | Frequency Pullability: | ±80 | - | - | ppm | 2 |
| 200 | Frequency Pullability: | ±100 | - | - | ppm | 2, 3 |
| 300 | Frequency Pullability: | ±150 | - | - | ppm | 2, 4 |

OPERATING SPECIFICATIONS

TABLE 4.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|----------------------------------|-------|---------|---------|---------|--------|------|
| Frequency Range | (Fo) | 30 | - | 100 | MHz | |
| Operating Temperature Range | | 0 | - | 70 | °C | |
| Supply Voltage | (Vcc) | 4.75 | 5.0 | 5.25 | Vdc | |
| Supply Current < 50 MHz | (Icc) | - | - | 35 | mA | |
| Supply Current > 50 MHz | (Icc) | - | - | 60 | mA | |
| Jitter (BW=10Hz to 20MHz) | | - | - | 5 | ps rms | |
| Jitter (BW=12kHz to 20MHz) | | - | - | 1 | ps rms | |
| SSB Phase Noise at 100Hz offset | | - | -90 | - | dBc/Hz | |
| SSB Phase Noise at 1KHz offset | | - | -100 | - | dBc/Hz | |
| SSB Phase Noise at 10KHz offset | | - | -125 | - | dBc/Hz | |
| SSB Phase Noise at 100KHz offset | | - | -135 | - | dBc/Hz | |

INPUT CHARACTERISTICS

TABLE 5.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|----------------------------|------|---------|---------|---------|-------|------|
| Control Voltage Range | (Vc) | 0.5 | 2.5 | 4.5 | Vdc | |
| Center Frequency | | 2.0 | 2.5 | 3.0 | Vdc | |
| Monotonic Linearity | | -15 | - | 15 | % | |
| Input Impedance | | - | 50K | - | Ohm | |
| Modulation Bandwidth (3dB) | | 15 | - | - | KHz | |

HCMOS OUTPUT CHARACTERISTICS

TABLE 6.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|--|--------------|---------|---------|---------|-------|------|
| LOAD | | - | - | 15 | pF | |
| Voltage | (High) (Voh) | 4.5 | - | - | Vdc | |
| | (Low) (Vol) | - | - | 0.5 | Vdc | |
| Current (30 to 52 MHz) | (High) (Ioh) | -8 | - | - | mA | |
| | (Low) (Ioh) | - | - | 8 | mA | |
| Current (52.1 to 100 MHz) | (High) (Ioh) | -16 | - | - | mA | |
| | (Low) (Ioh) | - | - | 16 | mA | |
| Duty Cycle at 50% of Vcc | | 40 | 50 | 60 | % | |
| Rise / Fall Time 10% to 90% | | - | - | 3 | nS | |
| Optional Duty Cycle: measured at 50% Vcc | | 45 | 50 | 55 | % | 5 |

PACKAGE CHARACTERISTICS

TABLE 7.0

| | |
|---------|-------------------------------------|
| Package | Hermetically sealed, metal package. |
|---------|-------------------------------------|

HV51-xxxG Series
HV52-xxxG Series
HV53-xxxG Series
HV54-xxxG Series
HV55-xxxG Series

DESCRIPTION

The Connor-Winfield HV5x-xxxG series is a 5.0V HCMOS, 14 Pin DIP hermetically sealed, Voltage Controlled Crystal Oscillator (VCXO). Based on a fundamental crystal design the HV5x-xxxG is designed for phased lock loop applications requiring low jitter and tight frequency stability.

FEATURES

5.0V OPERATION
FREQUENCY RANGE:
30 to 100 MHz
FREQUENCY STABILITY
HV51-xxxG SERIES ±25PPM
HV52-xxxG SERIES ±50PPM
HV53-xxxG SERIES ±100PPM
HV54-xxxG SERIES ±20PPM
HV55-xxxG SERIES ±10PPM
TEMPERATURE RANGE: 0 to 70°C
LOW JITTER <1ps RMS
HERMETICALLY SEALED PACKAGE
RoHS COMPLIANT / LEAD FREE

ORDERING INFORMATION

HV54-150G - 77.76MHz

VCXO
SERIES

CENTER
FREQUENCY

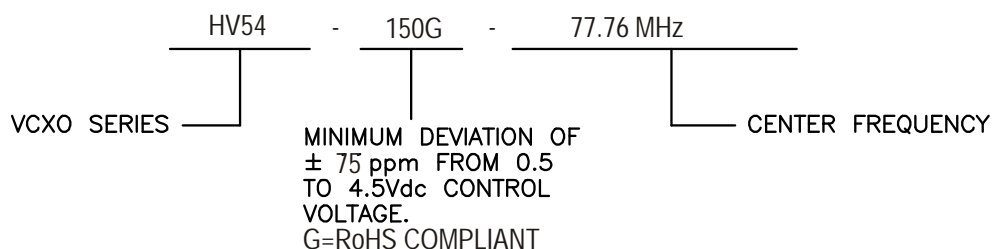
Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

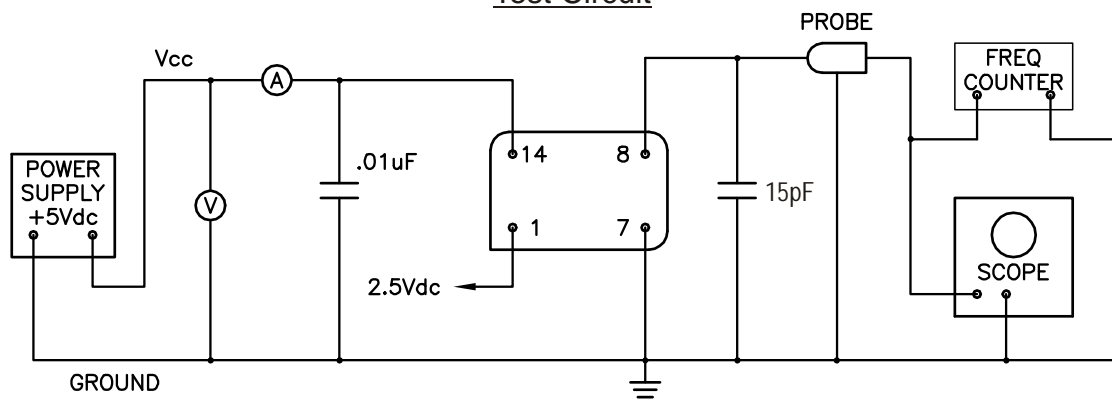
Note:

- 1) Frequency stability vs. change in temperature, referenced to frequency measured at 25°C with control voltage @ 2.50Vdc.
- 2) Referenced to Fo @ 25°C. Positive Slope.
- 3) +/-100ppm frequency deviation is not available above 75 MHz.
- 4) +/-150ppm frequency deviation is not available above 50 MHz.
- 5) Add "S" to the part number before the G, Example: HV54-150SG-077.76M.

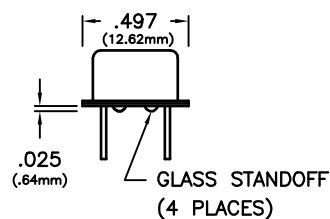
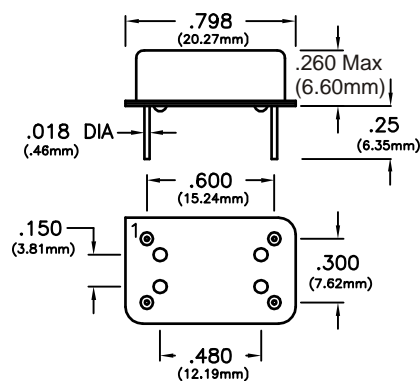
Example Part Number



Test Circuit



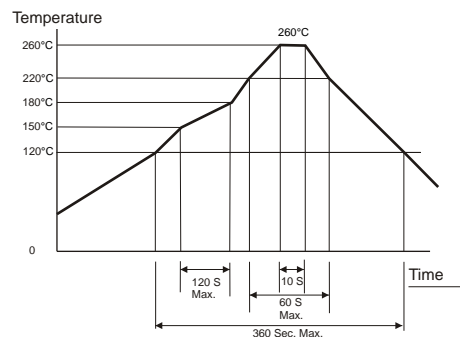
Package Outline and Pin Connections



| PIN | CONNECTION |
|-----|-----------------|
| 1 | CONTROL VOLTAGE |
| 7 | GROUND (CASE) |
| 8 | OUTPUT |
| 14 | (+) SUPPLY |

Dimensional: ±.02" (±0.5mm)
Tolerance: ±.008" (±0.2mm)

Solder Profile



Specifications subject to change without notice.