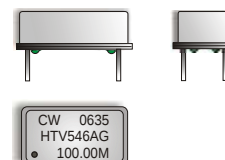


# CRYSTAL CONTROLLED OSCILLATORS

## 5.0V HCMOS VCTCXO 14 Pin DIP CRYSTAL OSCILLATOR


**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)  | 12.8    | -       | 100     | MHz    |      |
| Frequency Calibration @ 25°C                 |       | -1.5    | -       | 1.5     |        | 1    |
| Frequency Tolerance                          |       | -4.6    | -       | 4.6     | ppm    | 2    |
| Operating Temperature Range                  |       | 0       | -       | 70      | °C     |      |
| Supply Voltage                               | (Vcc) | 4.75    | 5.0     | 5.25    | Vdc    |      |
| Supply Current                               | (Icc) | -       | 15      | 35      | mA     |      |
| Jitter (BW=10Hz to 20MHz)                    |       | -       | -       | 5       | ps rms |      |
| Jitter (BW=12kHz to 20MHz)                   |       | -       | -       | 1       | ps rms |      |
| Typical Phase Noise Measurements @ 19.44 MHz |       |         |         |         |        |      |
| SSB Phase Noise at 10Hz offset               |       | -       | -80     | -       | dBc/Hz |      |
| SSB Phase Noise at 100Hz offset              |       | -       | -100    | -       | dBc/Hz |      |
| SSB Phase Noise at 1KHz offset               |       | -       | -120    | -       | dBc/Hz |      |
| SSB Phase Noise at 10KHz offset              |       | -       | -130    | -       | dBc/Hz |      |
| SSB Phase Noise at 100KHz offset             |       | -       | -145    | -       | dBc/Hz |      |

**INPUT CHARACTERISTICS**
**TABLE 3.0**

| PARAMETER                            |      | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|--------------------------------------|------|---------|---------|---------|-------|------|
| Control Voltage                      | (Vc) | 0.5     | 2.5     | 4.5     | Vdc   |      |
| Frequency Adjust Range (0.5 to 4.5V) |      | ±10     | -       | ±25     | ppm   | 3    |
| Frequency Adjust Linearity           |      | -10     | -       | 10      | %     |      |
| Input Impedance                      |      | 10k     | -       | -       | Ohm   |      |

**HCMOS OUTPUT CHARACTERISTICS**
**TABLE 4.0**

| PARAMETER                   |       | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|-----------------------------|-------|---------|---------|---------|-------|------|
| LOAD                        |       | -       | -       | 15      | pF    |      |
| Voltage (High)              | (Voh) | 3.75    | -       | -       | Vdc   |      |
| (Low)                       | (Vol) | -       | -       | 0.5     | Vdc   |      |
| Current (High)              | (Ioh) | -8      | -       | -       | mA    |      |
| (Low)                       | (Ioh) | -       | -       | 8       | 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 | Hermetically sealed, metal package. |
|---------|-------------------------------------|

**Note:**

- Frequency calibration at 25°C, Vc=2.5V, nominal Vcc, after a one minute warm up time.
- Inclusive of calibration, frequency vs. temperature stability, supply voltage change, load change, shock and vibration, 10 years aging.
- Positive Slope.

## HTV546AG

**DESCRIPTION**

The Connor-Winfield HTV546AG is a 14 pin DIP, 5.0V HCMOS, Voltage Controlled Temperature Compensated Crystal Oscillator (VCTCXO). The HTV546AG is designed for use as a SONET/SDH Network Timing Source.

**FEATURES**

5.0V OPERATION

LOW JITTER <1ps RMS

OVERALL FREQUENCY TOLERANCE  
±4.6ppm

TEMPERATURE RANGE: 0 to 70°C

HERMETICALLY SEALED DIP PACKAGE

RoHS COMPLIANT / LEAD FREE

**ORDERING INFORMATION**

HTV546AG - 100 MHz

TCXO  
SERIES

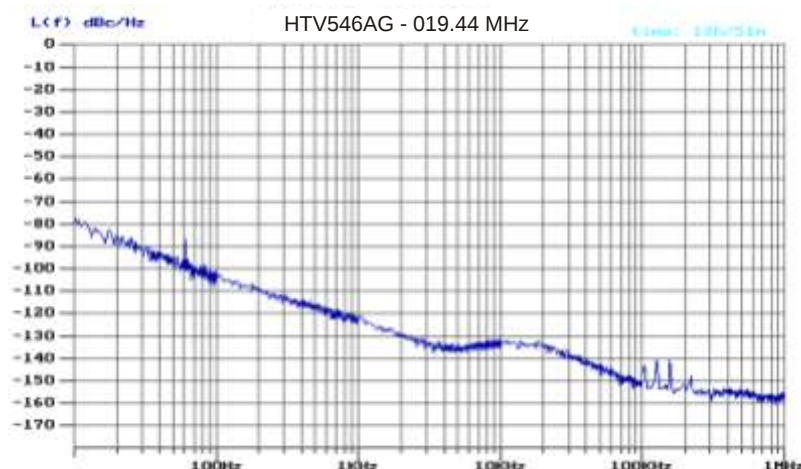
CENTER  
FREQUENCY

Specifications subject to change without notice.

# PRODUCT DATA SHEET

## CRYSTAL CONTROLLED OSCILLATORS

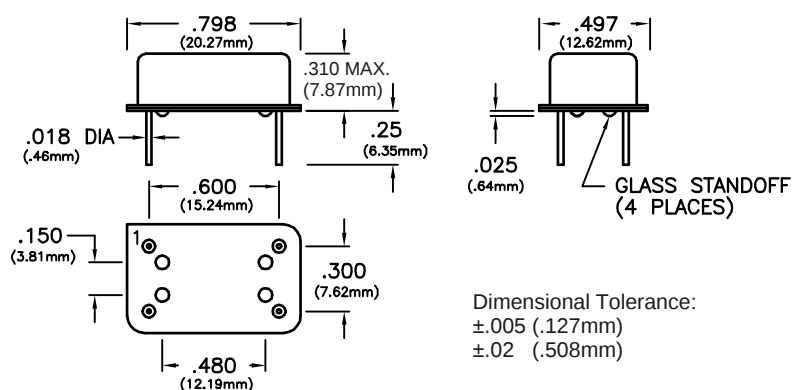
### Typical Phase Noise



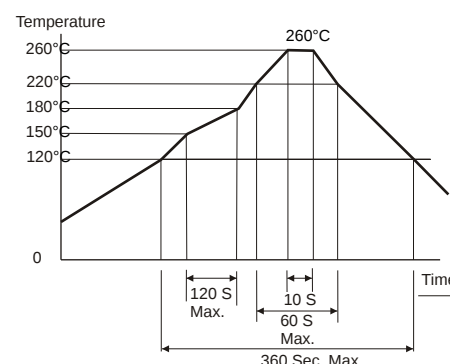
### Pin Connections

| Pin | Connection      |
|-----|-----------------|
| 1   | Control Voltage |
| 7   | Ground          |
| 8   | Output          |
| 14  | Vcc             |

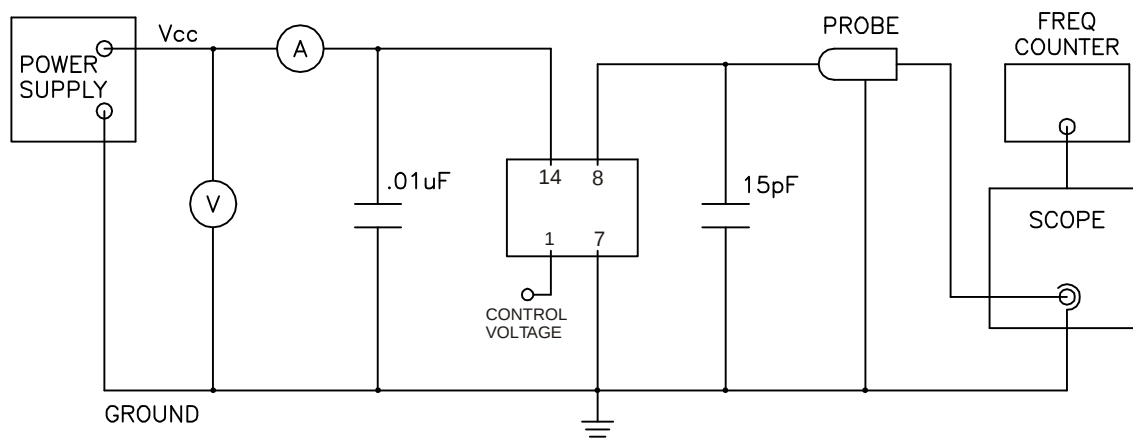
### Package Outline



### Solder Profile



### Test Circuit



Specifications subject to change without notice.