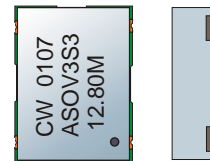


CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT 3.3V HCMOS STRATUM 3 OCXO



ASOV3S3

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

| PARAMETER | UNITS | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---------------------|-------|---------|---------|---------|-------|------|
| Storage Temperature | | -40 | - | 85 | °C | |
| Supply Voltage | (Vcc) | -0.5 | - | 4.5 | Vdc | |
| Control Voltage | (Vc) | -0.5 | - | 4.5 | Vdc | |

OPERATING SPECIFICATIONS

TABLE 2.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---------------------------------|-------|---------|--------------------------------------|---------|---------|------|
| Center Frequency | (Fo) | | 12.352 12.800 16.384 19.440 | | MHz | |
| Frequency Stability | | -0.25 | - | 0.25 | ppm | 1 |
| Total Frequency Tolerance | | -4.6 | - | 4.6 | ppm | 2 |
| Operating Temperature Range | | 0 | - | 70 | °C | |
| Supply Voltage | (Vcc) | 3.135 | 3.3 | 3.465 | Vdc | |
| Supply Current | (Icc) | - | - | 450 | mA | |
| Jitter (BW=12kHz to 20MHz) | | - | - | 5 | ps rms | |
| SSB Phase Noise at 10Hz offset | | - | -75 | - | dBc/Hz | |
| SSB Phase Noise at 10KHz offset | | - | -130 | - | dBc/Hz | |
| Start Up Time: Oscillator | | - | - | 10 | mS | |
| Warm Up Time | | - | - | 5 | Minutes | 3 |
| TDEV @ 1.0 Sec. | | - | - | 1 | nS | |
| TDEV @ 4.0 Sec. | | - | - | 2 | nS | |

INPUT CHARACTERISTICS

TABLE 3.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|---------------------------|------|---------|---------|---------|-------|------|
| Control Voltage Range | (Vc) | 0.3 | 1.48 | 3.0 | Vdc | |
| Frequency at Vc=0.3 Vdc | | -22.5 | - | -13.5 | ppm | 4 |
| Frequency at Vc=3.0 Vdc | | 13.5 | - | 22.5 | ppm | 4 |
| Slope of Frequency Adjust | | 5 | - | - | ppm/V | |
| Input Impedance | | 100k | - | - | Ohm | |

HCMOS OUTPUT CHARACTERISTICS

TABLE 4.0

| PARAMETER | | MINIMUM | NOMINAL | MAXIMUM | UNITS | NOTE |
|-----------------------------|-------|---------|---------|---------|-------|------|
| LOAD | | - | - | 15 | pf | |
| Voltage (High) | (Voh) | 2.6 | - | - | Vdc | |
| (Low) | (Vol) | - | - | 0.4 | Vdc | |
| Current (High) | (Ioh) | -4 | - | - | mA | |
| (Low) | (Iol) | - | - | 4 | mA | |
| Duty Cycle at 50% of Vcc | | 45 | 50 | 55 | % | |
| Rise / Fall Time 10% to 90% | | - | - | 6 | nS | |

PACKAGE CHARACTERISTICS

TABLE 5.0

| | |
|---------|------------------------------------------------------------------------------------------------|
| Package | Surface Mount, Non-hermetic package consisting of an FR4 subst rate 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 |

Notes:

- 1) Frequency vs. temperature stability, Vc = 1.48V.
- 2) Inclusive of calibration, operating temperature range, supply voltage change, load change, shock and vibration, 10 years aging, Vc = 1.48V.
- 3) Measured @ 25°C, within 5 minutes, the unit will be within +/-0.1ppm of its reference frequency, measured after 30 minutes of continuous operation at a stable 25°C
- 4) Referenced to Fo @ 25°C, Positive Transfer Characteristic

DESCRIPTION

The Connor-Winfield ASOV3S3 is a true Surface Mount 3.3V Oven Controlled Crystal Oscillator (OCXO) with an HCMOS output. The ASOV3S3 is designed for Stratum 3 applications requiring tight frequency stability and low jitter.

FEATURES

- FREQUENCY ADJUST
- 3.3V OPERATION
- LOW JITTER <5ps RMS
- TEMPERATURE STABILITY ±0.25ppm
- FREQUENCY TOLERANCE OF ±4.6ppm OVER TEN YEARS
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING

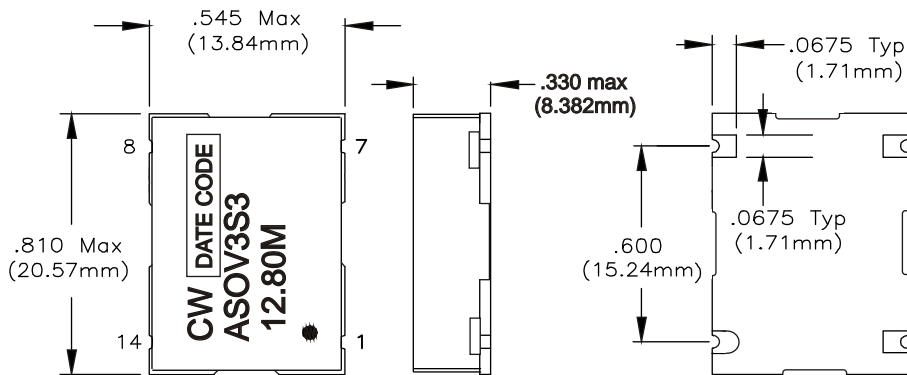
ORDERING INFORMATION

ASOV3S3 - 12.80MHz



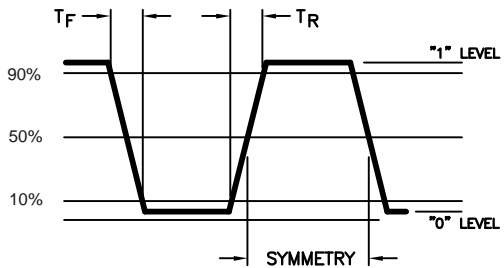
Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

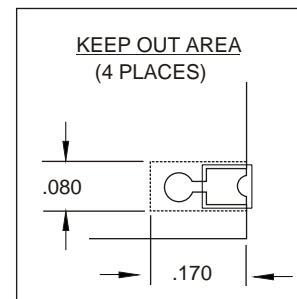
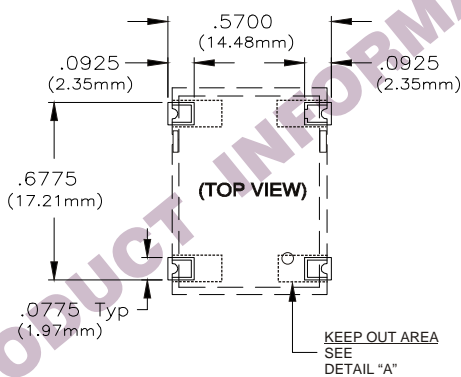


| PIN | FUNCTION |
|-----|-----------------|
| 1 | CONTROL VOLTAGE |
| 7 | GROUND (CASE) |
| 8 | OUTPUT |
| 14 | Vcc |

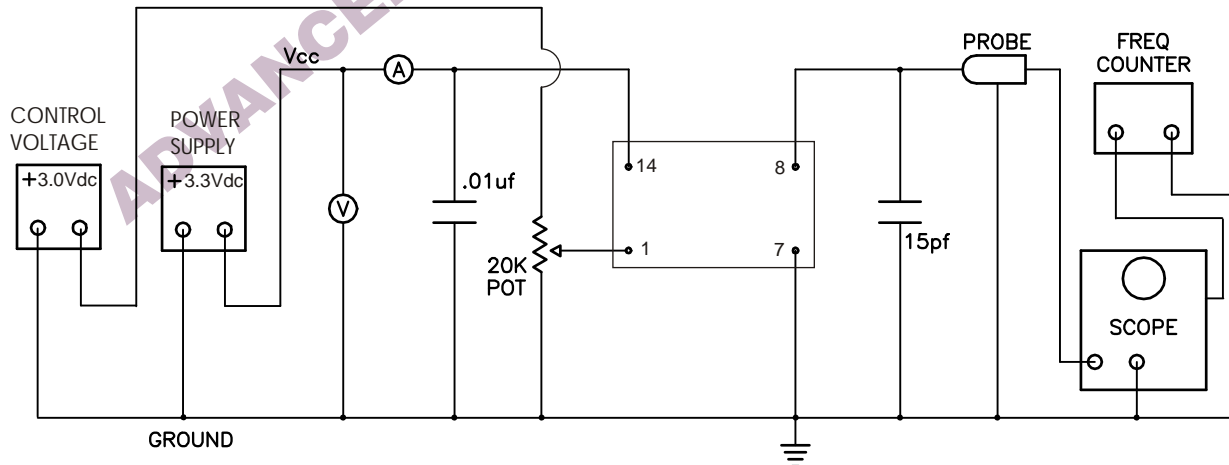
OUTPUT WAVEFORM



SUGGESTED PAD LAYOUT



TEST DIAGRAM



Specifications subject to change without notice.