CRYSTAL OSCILLATOR SPECIFICATION

This specification defines the operating characteristics of an ovenized crystal oscillator. Long term stability is assured through use of premium components.

<table>
<thead>
<tr>
<th>REV.</th>
<th>DESCRIPTION OF REVISION</th>
<th>DWG. BY</th>
<th>APV. BY</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td></td>
<td>BTG</td>
<td>TST</td>
<td>03-04-2006</td>
</tr>
<tr>
<td>A</td>
<td>Put on new form.</td>
<td>JTL</td>
<td>TST</td>
<td>08-15-2011</td>
</tr>
</tbody>
</table>

1. OUTPUT (PIN = "R.F. OUTPUT")
   1.1. Frequency 10.000000 MHz
   1.2. Waveform Sine wave
   1.3. Level +8 ±2 dBm
   1.4. Load 50 Ω ±5%
   1.5. Harmonics < -30 dBc
   1.6. Spurious < -60 dBc

2. FREQUENCY STABILITY
   2.1. Ambient < ±1x10⁻⁸, 0°C to +70°C (referenced to +25°C)
   2.2. Aging
      a. At time of shipment < ±5x10⁻¹⁰/day
      b. After indefinite storage
         i. Daily < ±5x10⁻¹⁰ after 30 days
         ii. Yearly < ±1x10⁻⁷
         iii. 10 years < ±3x10⁻⁷
   2.3. Voltage < ±1x10⁻⁸/±5% change
   2.4. Load < ±5x10⁻⁹/±5% change
   2.5. Warm-up < ±2x10⁻⁸ in 5 minutes @ +25 ±1°C (referenced to 4 hours)
   2.6. Phase Noise
      a. @ 1 Hz < -90 dBc
      b. @ 10 Hz < -120 dBc
      c. @ 100 Hz < -140 dBc
      d. @ 1 kHz < -148 dBc
      e. @ 10 kHz < -150 dBc
3. ELECTRICAL FREQUENCY ADJUSTMENT (PIN = "VCO INPUT")
   3.1. Range
       > ±4x10^{-7}
       < ±9x10^{-7} (At time of shipment)
       (Referenced to nominal frequency)
   3.2. Control
       0 to +5 V
   3.3. Slope
       Positive
   3.4. Center Voltage
       +2.5 ±0.5 V
       (Control voltage at which nominal frequency occurs at time of shipment)
   3.5. Input impedance
       > 100 kΩ

   NOTE: When not connected, VCO INPUT is internally held at this voltage.

4. INPUT POWER (PIN = "+VDC")
   4.1. Voltage
       +12 V ±5%
   4.2. Current
       < 350 mA @ turn on
   4.3. Steady state
       < 1.5 Watts @ +25°C

5. REFERENCE VOLTAGE (PIN = "REFERENCE VOLTAGE"), an output
   5.1. Voltage
       +8 V ±5%
   5.2. Load
       > 9 kΩ
   5.3. Temperature stability
       < ±0.0015 V
       (Over temperature range in 2.1)

6. RoHS
   All units supplied under this MODEL NUMBER are RoHS compliant.

7. MECHANICAL(Outline drawing)
   7.1. Applicable series
       OCXO 131 series
   7.2. Model number
       OCXO 131-1000
   7.3. Outline drawing
       125-587
### PIN CONNECTIONS

<table>
<thead>
<tr>
<th>PIN</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VCO INPUT or NOT CONNECTED</td>
</tr>
<tr>
<td>2</td>
<td>REFERENCE VOLTAGE or OVEN MONITOR or NOT CONNECTED</td>
</tr>
<tr>
<td>3</td>
<td>+VDC</td>
</tr>
<tr>
<td>4</td>
<td>R. F. OUTPUT</td>
</tr>
<tr>
<td>5</td>
<td>0 VOLTS &amp; CASE</td>
</tr>
</tbody>
</table>

Note 1. If the specification does not specify parameters for either PIN1 or PIN2 then that respective PIN is NOT internally CONNECTED.

## MARKING

- **MOD:**
- **FREQ.:**
- **S/N:**
- **DATE:**

---

**OSCIllATORS**

**NAME:** OUTLINE DRAWING  
(TCXO 141 & OCXO 131 SERIES)  

**CODE I.D. NO.:** 31785  
**SCALE:** 1:1  
**DATE:** 12-04-2000  
**DWN. BY:** LRB  
**APPRD. BY:** DAG  

**TOLERANCES**

- **ANGLES:** ±1 DEGREE
- **FRACTIONS:** ±1/32 INCH
- **DECIMALS:** XX ± .015, XXX ± .010 INCH

**MATERIAL:** STEEL  
**FINISH:** NICKEL  
**MARK:** LABEL