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>DWR. BY</th>
<th>APV. BY</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
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<td>JTL</td>
<td>TST</td>
<td>08-04-2011</td>
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</tbody>
</table>

1. OUTPUT (PIN = "R.F. OUTPUT")
   1.1. Frequency 10.000 MHz
   1.2. Initial Accuracy < ±2x10^-7
       a. @ Temperature +25 ±1°C
       b. After time on power 30 ±3 minutes
       c. Within time period ≤ 90 days
       d. @ VCO Input voltage +2.0 ±0.001 V
   1.3. Waveform Rectangular
   1.4. Level HCMOS
       a. "1" level > +4.5 V
       b. "0" level < +0.5 V
   1.5. Load 15 pF
   1.6. Duty cycle 40% to 60%@ +2.5 V
   1.7. 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 < ±4x10^-7
   2.3. Voltage < ±2x10^-9/±5% change
   2.4. Short term < 5x10^-11/second
       root Allan variance
   2.5. Load < ±2x10^-9/±10% change
   2.6. Warm-up < ±1x10^-7 in 5 minutes @ +25 ±1°C
       (referenced to 1 hour)
   2.7. Phase Noise
       a. @ 1 Hz < -80 dBC
       b. @ 10 Hz < -120 dBC
       c. @ 100 Hz < -140 dBC
       d. @ 1 kHz < -145 dBC
       e. @ 10 kHz < -150 dBC
3. ELECTRICAL FREQUENCY ADJUSTMENT (PIN = "VCO INPUT")
   3.1. Range  > ±8x10^{-7}
           Reference to frequency at nominal Center Voltage
   3.2. Control  0 to +4.0 V
   3.3. Slope  Positive
   3.4. Center Voltage  +2.0 V
       NOTE: When not connected, VCO INPUT is internally held at this voltage.
   3.5. Linearity  < ±10%
   3.6. Input impedance  > 100 kΩ

4. INPUT POWER (PIN = "+VDC")
   4.1. Voltage  +5 V ±5%
   4.2. Current  < 600 mA @ turn on
   4.3. Steady state  < 1.4 Watts @ +25°C

5. ENVIRONMENTAL
   5.1. Storage temperature  -40°C to +85°C
   5.2. Vibration (non-operating)  MIL-STD-202, Method 201 (0.06"
                                   Total p-p, 10 to 55 Hz)
   5.3. Shock (non-operating)  MIL-STD-202, Method 213, Test
                             Condition J (30 g, 11 ms half-sine)

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

7. MECHANICAL (Outline drawing)
   7.1. Applicable series  OCXO 143 series
   7.2. Model number  OCXO 143-1000
   7.3. Outline drawing  125-633
PIN CONNECTIONS

<table>
<thead>
<tr>
<th>PIN</th>
<th>FUNCTION</th>
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<tbody>
<tr>
<td>1</td>
<td>R. F. OUTPUT</td>
</tr>
<tr>
<td>2</td>
<td>0 VOLTS &amp; CASE</td>
</tr>
<tr>
<td>3</td>
<td>VCO INPUT or NOT CONNECTED</td>
</tr>
<tr>
<td>4</td>
<td>REFERENCE VOLTAGE or NOT CONNECTED or OVEN MONITOR</td>
</tr>
<tr>
<td>5</td>
<td>+VDC</td>
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Note 1. If the specification does not specify parameters for either PIN3 or PIN4 then that respective PIN is NOT internally CONNECTED.