

**CRYSTAL OSCILLATOR SPECIFICATION**

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

REV.	DESCRIPTION OF REVISION	DWN. BY	APV. BY	DATE
-		BTG	TST	03-04-2006
A	Put on new form.	JTL	TST	08-15-2011

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

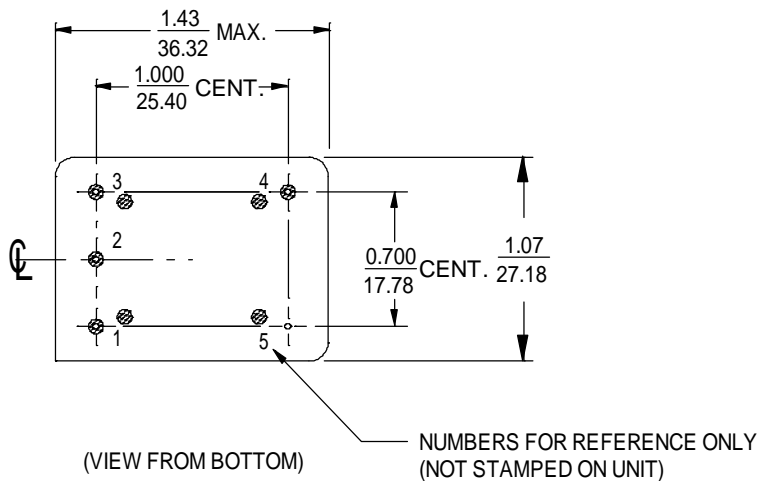
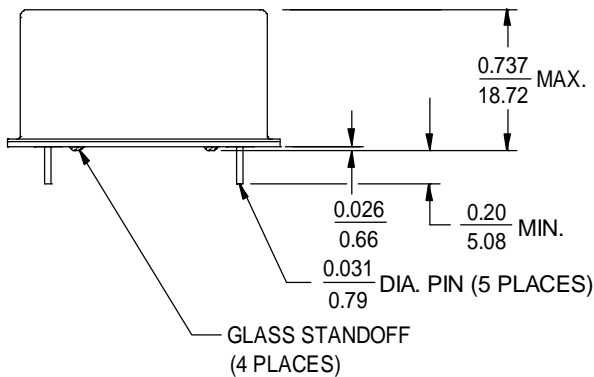
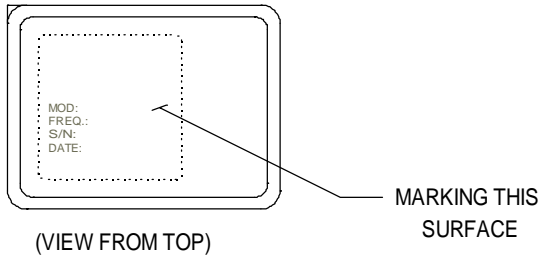
- 2.1. Ambient < ±2x10<sup>-8</sup>, 0°C to +70°C  
(referenced to +25°C)
- 2.2. Aging
  - a. At time of shipment < ±1x10<sup>-9</sup>/day
  - b. After indefinite storage
    - i. Daily < ±1x10<sup>-9</sup> after 30 days
    - ii. Yearly < ±1x10<sup>-7</sup>
    - iii. 10 years < ±3x10<sup>-7</sup>
- 2.3. Voltage < ±1x10<sup>-8</sup>/±5% change
- 2.4. Load < ±5x10<sup>-9</sup>/±5% change
- 2.5. Warm-up < ±2x10<sup>-8</sup> 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
      - >  $\pm 4 \times 10^{-7}$
      - <  $\pm 9 \times 10^{-7}$  (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  $\pm$  0.5 V
      - (Control voltage at which nominal frequency occurs at time of shipment)

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

  - 3.5. Input impedance
    - > 100 k $\Omega$
4. INPUT POWER (PIN = "+VDC")
  - 4.1. Voltage
    - +12 V  $\pm$  5%
  - 4.2. Current
    - < 350 mA @ turn on
  - 4.3. Steady state
    - < 1.5 Watts @ +25 $^{\circ}$ C
5. REFERENCE VOLTAGE (PIN = "REFERENCE VOLTAGE"), an output
  - 5.1. Voltage
    - +8 V  $\pm$  5%
  - 5.2. Load
    - > 9 k $\Omega$
  - 5.3. Temperature stability
    - <  $\pm 0.0015$  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 131-1001
  - 7.3. Outline drawing
    - 125-587

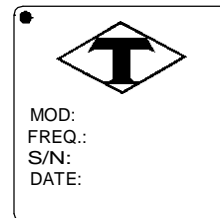
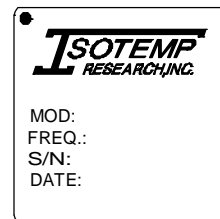
	OUR PERFORMANCE	MODEL NO.	PAGE OF TOTAL		DWG. NO.	REV.
	YOUR REPUTATION	OCXO 131-1001	2	2	114-1245	A



PIN CONNECTIONS	
PIN	FUNCTION
1 (See Note 1)	VCO INPUT or NOT CONNECTED
2 (See Note 1)	REFERENCE VOLTAGE or OVEN MONITOR or NOT CONNECTED
3	+VDC
4	R. F. OUTPUT
5	0 VOLTS & CASE

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

MARKING



$\frac{\text{INCH}}{\text{mm}}$  (REFERENCE ONLY)

Form NO. 120-081E



OSCILLATORS

Charlottesville, Virginia USA

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

CODE I.D. NO.  
**31785**

SCALE: 1:1  
DWN. BY: LRB

DATE: 12-04-2000  
APPR'D. BY: DAG

LET	REVISION	BY	APP	DATE
A	1.07 WAS 1.07 MAX	DAG	TST	12-06-2001
B	NEW FORM AND UPDATED MARKING.	BTG	JRD	02-01-2008
C	HEIGHT WAS .750 AND UPDATED MARKING.	BTG	TST	04-16-2010

TOLERANCES  
UNLESS OTHERWISE SPECIFIED:  
ANGLES:  $\pm 1$  DEGREE  
FRACTIONS:  $\pm 1/32$  INCH  
DECIMALS: .XX  $\pm$  .015, .XXX  $\pm$  .010 INCH  
MATERIAL: STEEL  
FINISH: NICKEL  
MARK: LABEL

DWG: 125-587  
REV: C  
SHT: 1 OF 1