

## 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, added RoHS	JTL	TST	08-12-2011

### 1. OUTPUT (PIN = "R.F. OUTPUT")


1.1. Frequency	10.000000 MHz
1.2. Waveform	Rectangular
1.3. Level	HCMOS
a. "1" level	> Vcc - 0.5 V
b. "0" level	< +0.3 V
1.4. Load	5 HCMOS loads
1.5. Duty cycle	40% to 60% @ 50% level
1.6. Rise/fall time	< 10 ns (10% to 90%)
1.7. Spurious	< -60 dBc

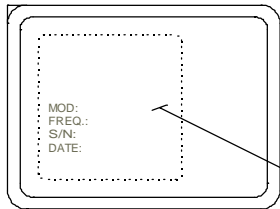
### 2. FREQUENCY STABILITY

2.1. Ambient	< $\pm 1 \times 10^{-8}$ , -20°C to +70°C (referenced to +25°C)
2.2. Aging	
a. At time of shipment	< $\pm 1 \times 10^{-9}$ /day
b. After indefinite storage	
i. Daily	< $\pm 1 \times 10^{-9}$ after 30 days
ii. Yearly	< $\pm 1 \times 10^{-7}$
iii. 10 years	< $\pm 4 \times 10^{-7}$
2.3. Voltage	< $\pm 3.5 \times 10^{-9}$ /±5% change
2.4. Short term	< $2 \times 10^{-11}$ /second root Allan variance
2.5. Warm-up	< $\pm 1 \times 10^{-7}$ in 15 minutes (referenced to 1 hour)
2.6. Phase Noise	
a. @ 100 Hz	< -140 dBc
b. @ 10 kHz	< -150 dBc

	OUR PERFORMANCE	MODEL NO.	PAGE OF TOTAL		DWG. NO.	REV.
	YOUR REPUTATION	OCXO 131-1003	1	2	114-1247	A

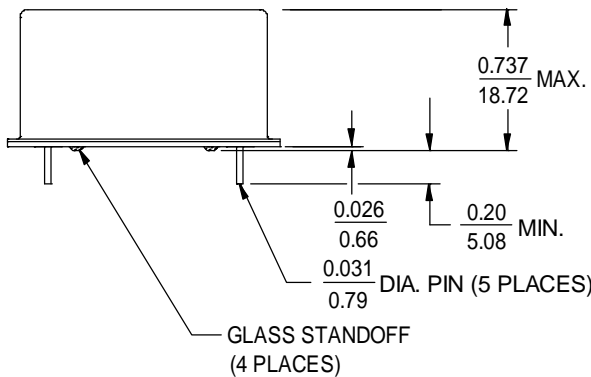
- 3. ELECTRICAL FREQUENCY ADJUSTMENT (PIN = "VCO INPUT")
  - 3.1. Range
    - >  $\pm 5 \times 10^{-7}$
    - <  $\pm 1 \times 10^{-6}$  (At time of shipment)
    - (Referenced to nominal frequency)
  - 3.2. Control
    - 0 to +5 V
  - 3.3. Slope
    - Positive
  - 3.4. Center Voltage
    - +2.5  $\pm$ 0.3 V
    - (Control voltage at which nominal frequency occurs at time of shipment)
  - 3.5. Linearity
    - <  $\pm 10\%$
  - 3.6. Input impedance
    - > 50 k $\Omega$
  
- 4. INPUT POWER (PIN = "+VDC")
  - 4.1. Voltage
    - +5 V  $\pm 5\%$
  - 4.2. Current
    - < 800 mA @ turn on
  - 4.3. Steady state
    - < 1.25 Watts @ +25°C
  
- 5. RoHS
  - All units supplied under this MODEL NUMBER are RoHS compliant.
  
- 6. MECHANICAL(Outline drawing)
  - 6.1. Applicable series
    - OCXO 131 series
  - 6.2. Model number
    - OCXO 131-1003
  - 6.3. Outline drawing
    - 125-587

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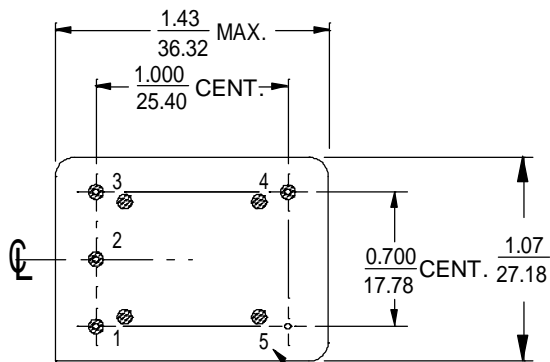


(VIEW FROM TOP)

MARKING THIS SURFACE



GLASS STANDOFF (4 PLACES)



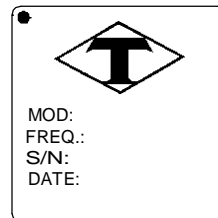
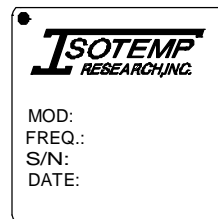
(VIEW FROM BOTTOM)

NUMBERS FOR REFERENCE ONLY (NOT STAMPED ON UNIT)

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