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	< $\pm 2 \times 10^{-8}$, 0°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	< $\pm 3 \times 10^{-7}$
2.3. Voltage	< $\pm 1 \times 10^{-8}$/±5% change
2.4. Load	< $\pm 5 \times 10^{-9}$/±5% change
2.5. Warm-up	< $\pm 2 \times 10^{-8}$ 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	> $\pm 4 \times 10^{-7}$
	< $\pm 9 \times 10^{-7}$ (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 ±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 kΩ

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

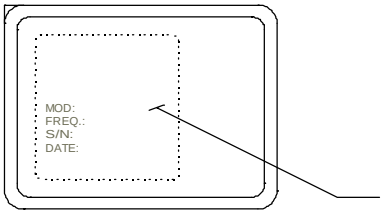
5.1. Voltage	+8 V ±5%
5.2. Load	> 9 kΩ
5.3. Temperature stability	< ±0.0015 V
	(Over temperature range in 2.1)

6. RoHS

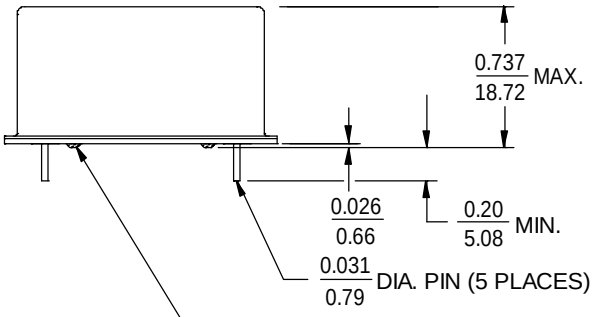
All units supplied under this MODEL NUMBER are RoHS compliant.

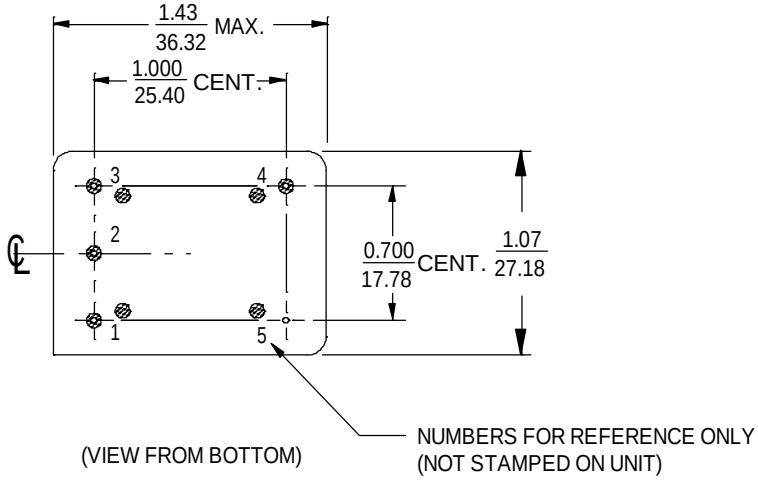
7. MECHANICAL(Outline drawing)

7.1. Applicable series	OCXO 131 series
7.2. Model number	OCXO 131-1001
7.3. Outline drawing	125-587



(VIEW FROM TOP)



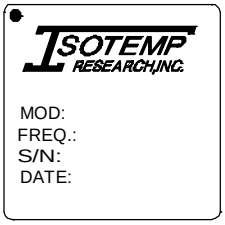


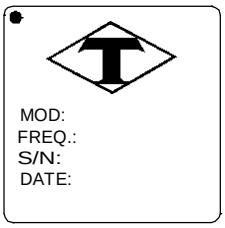
(VIEW FROM BOTTOM)

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





INCH / mm (REFERENCE ONLY)

Form NO. 120-081E

ISOTEMP RESEARCH,INC. — OSCILLATORS — Charlottesville, Virginia USA

NAME: OUTLINE DRAWING

(TCXO 141 & OCXO 131 SERIES)

CODE I.D. NO. 31785 | SCALE: 1:1 | DATE: 12-04-2000 | DWN. BY: LRB | APPR'D. BY: DAG

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

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:
ANGES: ±1 DEGREE
FRACTIONS: ±1/32 INCH
DECIMALS: .XX ± .015, .XXX ± .010 INCH

MATERIAL: STEEL

FINISH: NICKEL

MARK: LABEL