

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
-		JTL	TST	08-16-2011

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

- 1.1. Frequency 26.000000 MHz
- 1.2. Initial Accuracy < $\pm 1 \times 10^{-6}$
 - a. @ Temperature +25 $\pm 1^\circ\text{C}$
 - b. After time on power 30 ± 5 minutes
 - c. Within time period following date code ≤ 90 days
 - d. @ VCO Input voltage +2.5 ± 0.001 V
- 1.3. Waveform Rectangular
- 1.4. Level HCMOS
 - a. "1" level > +3.5 V
 - b. "0" level < +0.5 V
- 1.5. Load 15 pF
- 1.6. Duty cycle 45% to 55% @ +2.0 V
- 1.7. Spurious < -60 dBc

2. FREQUENCY STABILITY

2.1. Ambient


Temperature \ Stability	< $\pm 5 \times 10^{-8}$	< $\pm 1 \times 10^{-7}$
0°C ~ +70°C	OCXO147-1008	OCXO147-1009
-30°C ~ +70°C		OCXO147-1010
	Model Number	

2.2. Aging

- a. At time of shipment < $\pm 5 \times 10^{-9}$ /day
- b. After indefinite storage
 - i. Daily < $\pm 5 \times 10^{-9}$ after 30 days
 - ii. Yearly < $\pm 5 \times 10^{-7}$
 - iii. 10 years < $\pm 3 \times 10^{-6}$
- 2.3. Voltage < $\pm 5 \times 10^{-8}$ / $\pm 5\%$ change
- 2.4. Short term < 2×10^{-10} / 1 second root Allan variance
- 2.5. Warm-up < $\pm 1 \times 10^{-7}$ in 2 minutes @ +25 $\pm 1^\circ\text{C}$ (referenced to 1 hour)

2.6. Phase Noise

- a. @ 10 Hz < -90 dBc
- b. @ 100 Hz < -125 dBc
- c. @ 1 kHz < -135 dBc
- d. @ 10 kHz < -145 dBc

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		OCXO 147-1008 ~ 147-1010	1	2	114-1476	-

- 3. ELECTRICAL FREQUENCY ADJUSTMENT (PIN = "VCO INPUT")
 - 3.1. Range > $\pm 5 \times 10^{-6}$

Referenced to frequency at nominal Center Voltage
 - 3.2. Control 0 to +5 V
 - 3.3. Slope Positive
 - 3.4. Center Voltage +2.5 V
 - 3.5. Linearity < $\pm 10\%$
 - 3.6. Input impedance > 50 k Ω


- 4. INPUT POWER (PIN = "+VDC")
 - 4.1. Voltage +5.0 V $\pm 5\%$
 - 4.2. Current < 500 mA @ turn on
 - 4.3. Steady state < 0.8 Watts @ +25°C

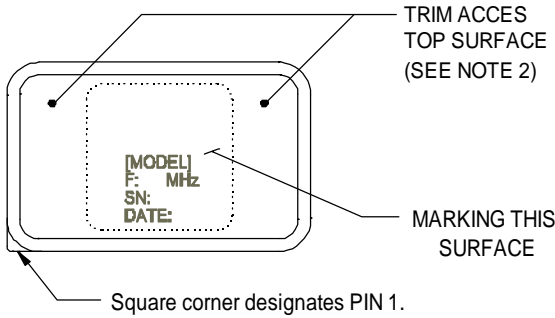
- 5. ENVIRONMENTAL
 - 5.1. Storage temperature -40°C to +85°C
 - 5.2. Vibration (non-operating) MIL-STD-202, Method 201 (0.06" Total p-p, 10 to 55 Hz)
 - 5.3. Shock (non-operating) MIL-STD-202, Method 213, Test Condition J (30 g, 11 ms half-sine)

- 6. RoHS

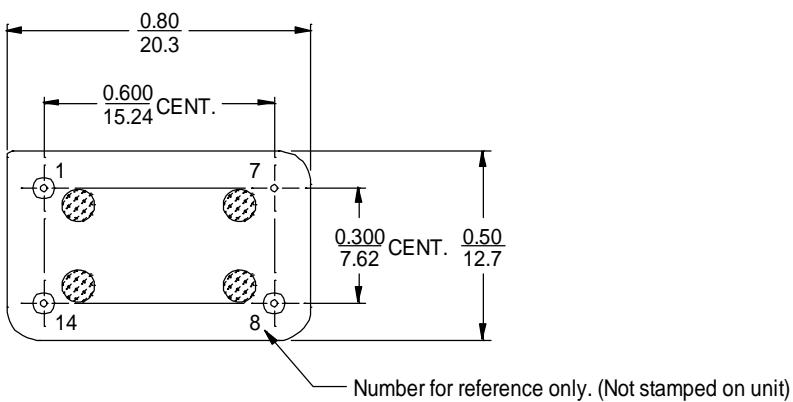
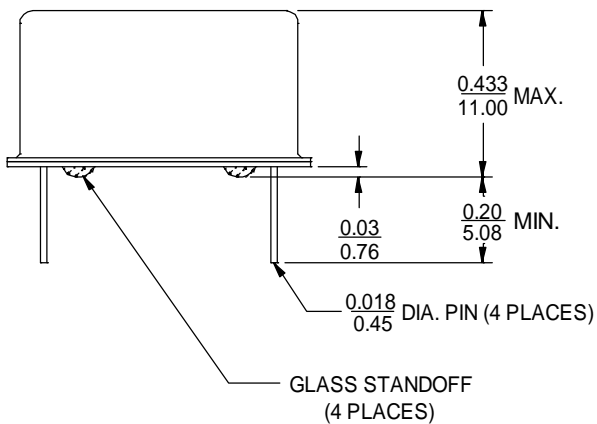
All units supplied under this MODEL NUMBER are RoHS compliant.

- 7. MECHANICAL(Outline drawing)
 - 7.1. Applicable series OCXO 147 series
 - 7.2. Model number See Paragraph 2.1.
 - 7.3. Outline drawing 125-630

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(VIEW FROM TOP)



(VIEW FROM BOTTOM)

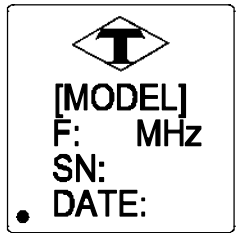
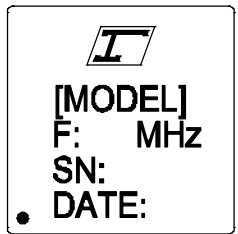
PIN CONNECTIONS

PIN	FUNCTION
1 <small>(See Note 1)</small>	VCO INPUT or NOT CONNECTED
7	0 VOLTS & CASE
8	R.F. OUTPUT
14	+VDC

Notes:

1. If the specification does not specify parameters for PIN 1 then PIN 1 is not internally CONNECTED.
2. If the specification does not specify parameters for "MECHANICAL FREQUENCY ADJUSTMENT" then there is no Trim Access.

MARKING



INCH
mm (REFERENCE ONLY)

Form NO. 120-081E

ISOTEMP <small>RESEARCH, INC.</small>		OSCILLATORS			Charlottesville, Virginia USA	
NAME: OUTLINE DRAWING (TCXO 128 SERIES/OCXO 147 SERIES)		CODE I.D. NO. 31785	SCALE: 2:1 DWN. BY: BTG	DATE: 10-19-2006 APPR'D. BY: BTG		
A	UPDATED MARKING.	BTG	JRD	03-05-2008	TOLERANCES	
B	UPDATED MARKING.	BTG	TST	03-09-2010	UNLESS OTHERWISE SPECIFIED: ANGLES: ±1 DEGREE FRACTIONS: ±1/32 INCH DECIMALS: .XX ± .015, .XXX ± .010 INCH	
				MATERIAL: STEEL		
				FINISH: NICKEL		
LET	REVISION	BY	APP	DATE	MARK: LABEL	

DWG: 125-630
 REV: B
 SHT: 1 OF 1