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OCXO 131-1004

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
-		TST	TST	06-19-2007
A	Updated to new Format.	BTG	JRD	02-25-2008

ISOTEMP RESEARCH INC. CHARLOTTESVILLE, VA. USA	MODEL NO.	PAGE OF TOTAL		DWG. NO.	REV.
	OCXO 131-1004	1	3	114-1275	A



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

1.1. Frequency	10.000000 MHz
1.2. Waveform	Rectangular
1.3. Level	HCMOS
a. "1" level	> +4.4 V
b. "0" level	< +0.4 V
1.4. Load	15pF
1.5. Duty cycle	45% to 55%@ +2.5 V
1.6. Rise/fall time	< 3 ns (10% to 90%)
1.7. Spurious	< -70 dBc

2. FREQUENCY STABILITY

2.1. Ambient	< $\pm 3 \times 10^{-9}$, -10°C to +70°C
2.2. Aging	
a. At time of shipment	< $\pm 3 \times 10^{-10}$ /day
b. After indefinite storage	
i. Daily	< $\pm 3 \times 10^{-10}$ after 30 days
ii. Yearly	< $\pm 5 \times 10^{-8}$
iii. 15years	< $\pm 3.5 \times 10^{-7}$
2.3. Voltage	< $\pm 1 \times 10^{-9}$ /±5% change
2.4. Short term	< 1×10^{-11} /second root Allan variance
2.5. Warm-up	< $\pm 5 \times 10^{-8}$ in 8 minutes (referenced to 1 hour)
2.6. Phase noise	
a. @ 10 Hz	< -120 dBc
b. @ 100 Hz	< -140 dBc
c. @ 1k Hz	< -150 dBc
d. @ 10 kHz	< -150 dBc
e. @ 100 kHz	< -150 dBc

ISOTEMP RESEARCH INC. CHARLOTTESVILLE, VA. USA	MODEL NO.	PAGE OF TOTAL		DWG. NO.	REV.
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3. ELECTRICAL FREQUENCY ADJUSTMENT (PIN = "VCO INPUT")

- 3.1. Range
 - $> \pm 4 \times 10^{-7}$
 - $< \pm 8 \times 10^{-7}$ (At time of shipment)
 - (Referenced to nominal frequency)
- 3.2. Control
 - 0 to +5 V
- 3.3. Slope
 - Positive
- 3.4. Center
 - +2.5 $\pm$ 0.3 V
 - (Control voltage at which nominal frequency occurs at time of shipment)
 - (NOTE: When not connected, VCO INPUT is internally held in this voltage range.)
- 3.5. Linearity
 - $< \pm 10\%$
- 3.6. Input impedance
 - $> 50 \text{ k}\Omega$

4. INPUT POWER (PIN = "+VDC")

- 4.1. Voltage
 - +12 V $\pm 5\%$
- 4.2. Current
 - $< 350 \text{ mA}$ @ turn on
- 4.3. Steady state
 - $< 2.2 \text{ Watts}$ @ +25°C

5. REFERENCE VOLTAGE (PIN = "REFERENCE VOLTAGE"), Not Connected

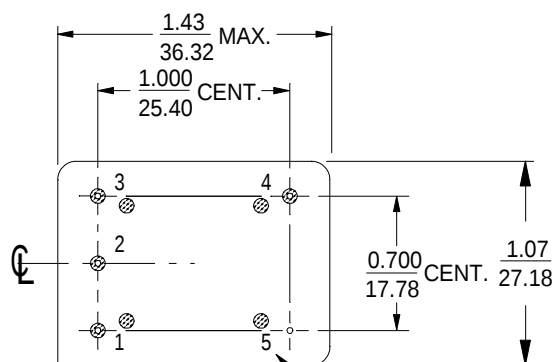
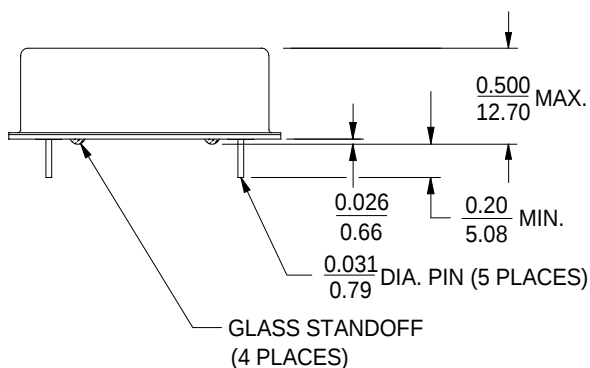
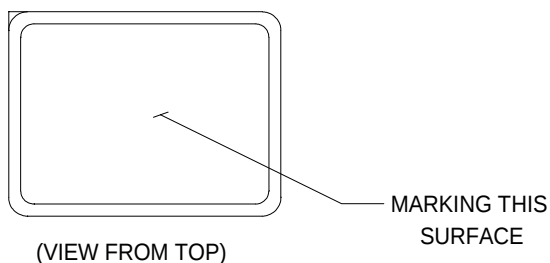
6. RoHS

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 131-1004
- 7.3. Outline drawing
 - 125-597

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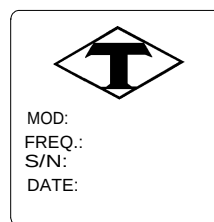
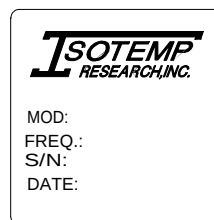


(VIEW FROM BOTTOM) NUMBERS FOR REFERENCE ONLY
(NOT STAMPED ON UNIT)

PIN CONNECTIONS	
PIN	FUNCTION
1 (See Note 1)	VCO INPUT or NOT CONNECTED
2 (See Note 1)	REFERENCE VOLTAGE or 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



OSCILLATORS

Charlottesville, Virginia USA

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

CODE I.D. NO.

31785

SCALE: 1:1

DATE: 02-26-2002

DWN. BY: LRB

APPR'D. BY: DAG

LET	REVISION	BY	APP	DATE	TOLERANCES
A	Max height was .515.	BTG	TST	04-06-2004	UNLESS OTHERWISE SPECIFIED: ANGLES: ±1 DEGREE FRACTIONS: ±1/32 INCH DECIMALS: .XX ± .015, .XXX ± .010 INCH MATERIAL: STEEL FINISH: NICKEL MARK: LABEL
B	NEW FORM AND UPDATED MARKING.	BTG	JRD	02-26-2008	
LET					

DWG: 125-597
REV: B
SHT: 1 OF 1