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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

OCXO 131-1005

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	< $\pm 5 \times 10^{-9}$, -10°C to +70°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. 15years	< $\pm 4 \times 10^{-7}$
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

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 ±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	< ±10%
3.6. Input impedance	> 50 kΩ

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

4.1. Voltage	+12 V ±5%
4.2. Current	< 350 mA @ turn on
4.3. Steady state	< 2.2 Watts @ +25°C

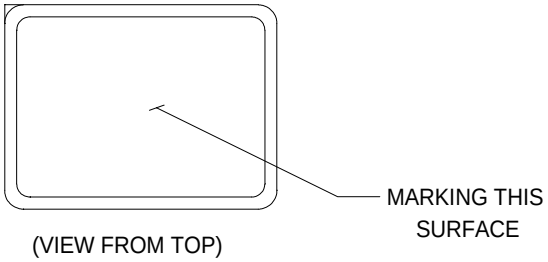
5. REFERENCE VOLTAGE (PIN = "REFERENCE VOLTAGE"), Not Connected

6. RoHS

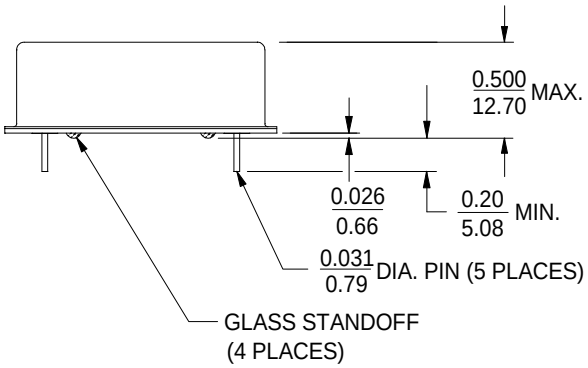
All units supplied under this MODEL NUMBER are RoHS compliant.

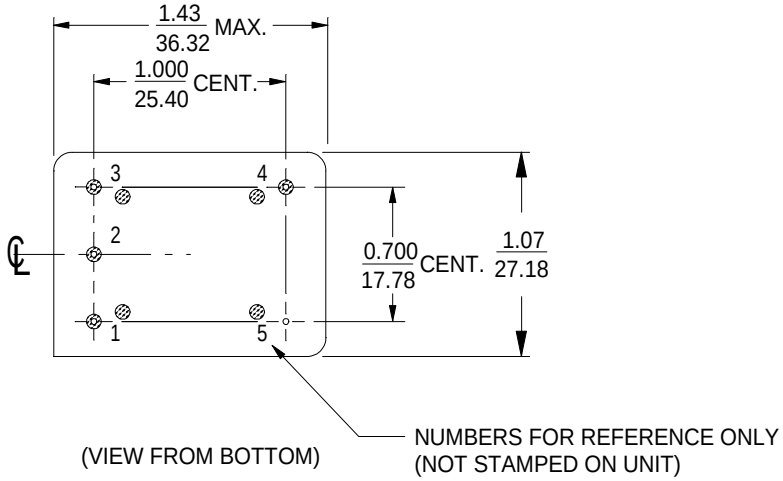
7. MECHANICAL(Outline drawing)

7.1. Applicable series	OCXO 131 series
7.2. Model number	OCXO 131-1005
7.3. Outline drawing	125-597



(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 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

ISOTEMP RESEARCH,INC.

MOD:
FREQ.:
S/N:
DATE:

MOD:
FREQ.:
S/N:
DATE:

INCH / mm (REFERENCE ONLY)

Form NO. 120-081E

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

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

CODE I.D. NO.	SCALE: 1:1	DATE: 02-26-2002
31785	DWN. BY: LRB	APPR'D. BY: DAG

LET	REVISION	BY	APP	DATE
A	Max height was .515.	BTG	TST	04-06-2004
B	NEW FORM AND UPDATED MARKING.	BTG	JRD	02-26-2008

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

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