



OCXO 134-10

P.O. BOX 3389
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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	REQ. BY	DWN. BY	DATE
NONE		ADB	TST	02-06-92
A	Updated form, 2.5. was $\pm 5 \times 10^{-10}$, 4.3.a. was ± 4 mV, 6.1.a. was +2.4 VDC, 6.2.a. was +0.4 VDC	ADB	TST	10-30-92
B	5.3.a. was < 2.4 Watts (1.8 Watts typical) 5.3.b. was < 4.6 Watts (3.5 Watts typical)	BTB	TST	04-29-94

ISOTEMP RESEARCH INC. CHARLOTTESVILLE, VA. USA	CODE ID.	PART NO.	PAGE OF TOTAL		DWG. NO.	REV.
	31785	OCXO 134-10	1	3	114-501	B

- 1. OUTPUT
 - 1.1. Frequency 10.000 MHz
 - 1.2. Wave form Sine wave
 - 1.3. Level 2 V_{p-p} ±10% into 50 Ω
 - 1.4. Load 50 Ω ±5%
 - 1.5. Harmonics < -25 dBc
 - 1.6. Spurious < -60 dBc

- 2. STABILITY
 - 2.1. Ambient < ±5x10⁻⁹ from -30°C to +60°C (referenced to +25°C)
 - 2.2. Aging
 - a. Daily
 - i. After 30 days < ±1x10⁻⁹
 - ii. After 90 days < ±5x10⁻¹⁰
 - b. Yearly < ±1.5x10⁻⁷
 - c. 10 years < ±4x10⁻⁷
 - 2.3. Voltage < ±5x10⁻¹⁰/±2% change
 - 2.4. Short term < 1x10⁻¹⁰/second
root Allan variance
 - 2.5. Load < ±1x10⁻⁹/±5% change
 - 2.6. Warm-up @ -30°C referenced to frequency @ 5 hours
 - a. 30 minutes < ±5x10⁻⁸
 - b. 60 minutes < ±1x10⁻⁸
 - 2.7. Phase noise
 - a. @ 10 Hz < -105 dBc
 - b. @ 100 Hz < -125 dBc
 - c. @ 1 kHz < -140 dBc

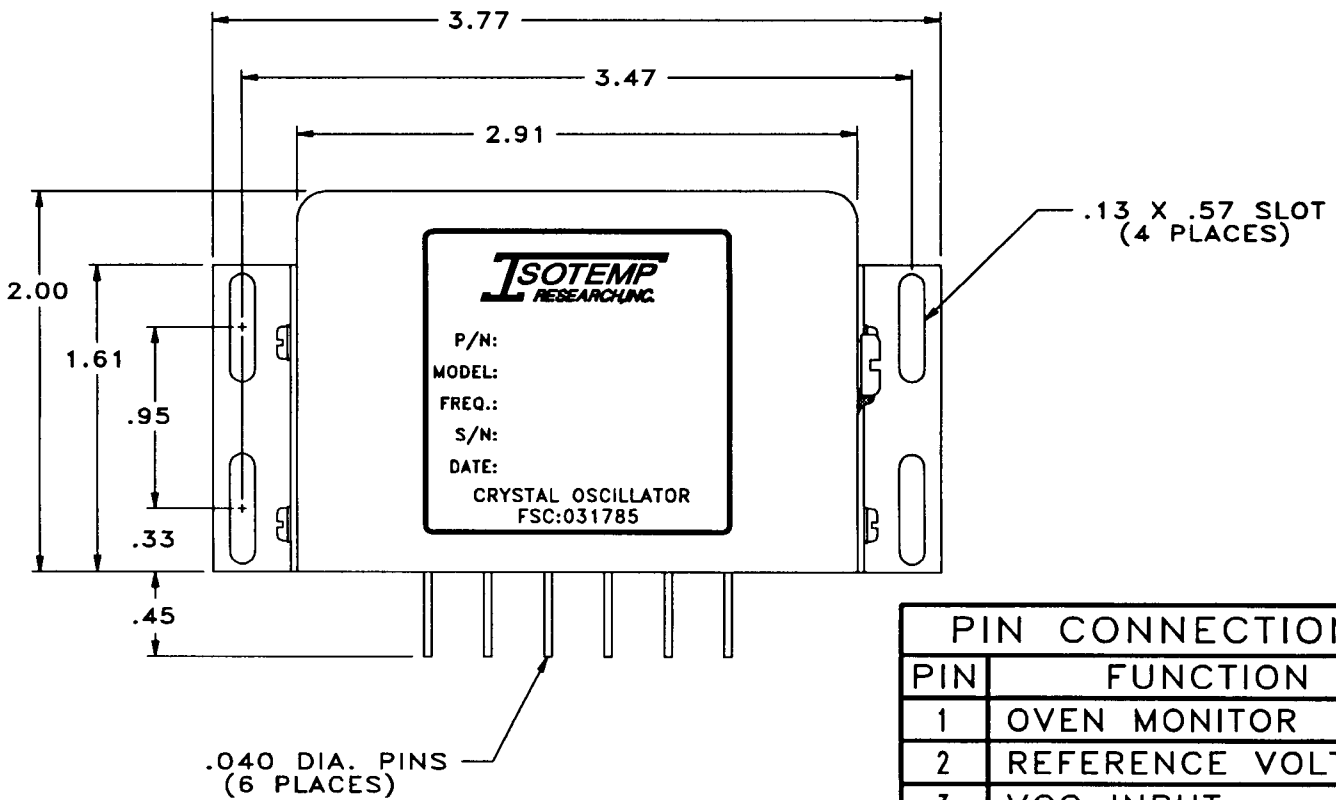
- 3. ELECTRICAL FREQUENCY ADJUSTMENT
 - 3.1. Range > ±0.45 PPM
< ±1.2 PPM (At time of shipment)
(Referenced to nominal frequency)
 - 3.2. Control 0 VDC to V_{ref} (0 VDC to +8 VDC) or
a 10 kΩ potentiometer connected
between pins 2 and 4 with wiper
connected to pin 3.
 - 3.3. Slope Positive
 - 3.4. Center V_{ref}/2 ±10% of V_{ref}
(+4 VDC to +0.8 VDC)

(Nominal frequency at time of shipment)

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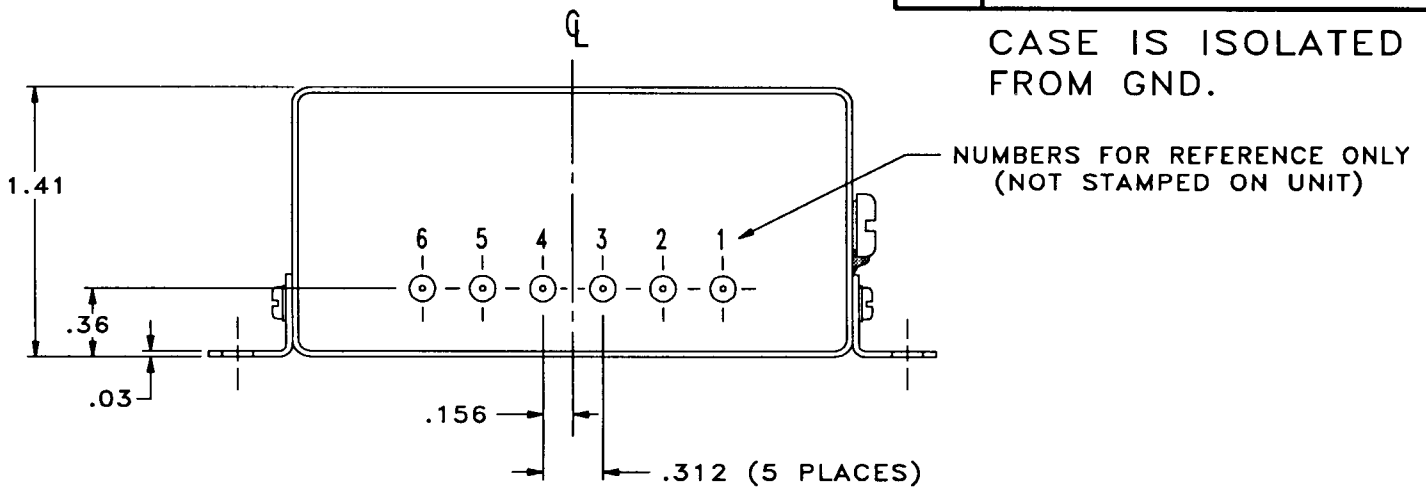
- 4. REFERENCE VOLTAGE
 - 4.1. Voltage +8 VDC \pm 5%
 - 4.2. Current < 1 mA
 - 4.3. Stability
 - a. Ambient < \pm 10 mV
(Over temperature range in 2.1.)
 - b. Input voltage < \pm 1 mV/2%
- 5. INPUT POWER
 - 5.1. Voltage +13 VDC \pm 2 VDC
 - 5.2. Current < 800 mA @ turn on
 - 5.3. Steady state
 - a. @ +25°C < 2.8 Watts
 - b. @ -30°C < 6 Watts
- 6. OVEN MONITOR
 - 6.1. Oven at temperature
 - a. Voltage > +3.5 VDC
 - 6.2. Oven not at temperature
 - a. Voltage < +1 VDC
- 7. ENVIRONMENTAL
 - 7.1. Humidity MIL-STD-202F, Method 103B,
Test Condition A
(95% R.H. @ +40°C,
non-condensing, 240 hours)
 - 7.2. Storage temperature -40°C to +85°C
 - 7.3. Vibration (non-operating) MIL-STD-202F method 201A
(0.06" Double amplitude,
10 to 55 Hz)
 - 7.4. Shock (non-operating) MIL-STD-202F method 214
test condition J
(30 g's, 11 ms, Half-sine)
- 8. MECHANICAL
 - 8.1. Applicable series OCXO 134 series
 - 8.2. Model number OCXO 134-10
 - 8.3. Outline drawing 125-396

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PIN CONNECTIONS	
PIN	FUNCTION
1	OVEN MONITOR
2	REFERENCE VOLTAGE
3	VCO INPUT
4	0 VOLTS
5	R.F. OUTPUT
6	+ VDC

CASE IS ISOLATED FROM GND.



FORM NO. 120-0818



OSCILLATORS

CHARLOTTESVILLE, VIRGINIA

NAME: OUTLINE DRAWING
(OCXO 134 SERIES)

CODE I.D. NO.
31785

SCALE: 1:1

DATE: 02-05-92

DWN. BY: WEW

APPR'D. BY: TST

LET	REVISION	BY	DATE
A	1.61 DIMENSION WAS 1.70	WEW	02-21-92
B	.36 DIMENSION WAS .33	DLR	10-30-92
C	0 VOLTS WAS CONNECTED TO CASE	DLR	11-12-92
D	ADDED SEAL SCREW AND GLYPTOL	DLR	07-13-93

TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES: ±1 DEGREE
FRACTIONS: ±1/32 INCH
DECIMALS: .XX ±.015, .XXX ±.010
MAT'L: COLD ROLLED STEEL
FINISH: BRIGHT NICKEL
MARK: LABEL

DWG: 125-396
REV: D
SHT: 1 OF 1