

## OUTPUT

### Frequency

100 MHz

### Signal Type / Level

Sine, +13 dBm  $\pm 2$  dB into 50 ohms

### Start Time

$\leq 2$  seconds, to achieve 90% amplitude

## STABILITY

### Aging

$\pm 1 \times 10^{-6}$  first year,  
after 30 days operating, typical

$\pm 5 \times 10^{-7}$  second year, typical

$\pm 3 \times 10^{-7}$  per year thereafter, typical

### Phase Noise L(f), dBc/Hz, typical

	Static	Dynamic, Harmonic Vibration	Dynamic, Random Vibration
1 Hz	-70	---	---
4 Hz	---	-86	---
5 Hz	---	-87	-78
10 Hz	-105	-86	-87
15 Hz	---	-85	---
20 Hz	---	-86	-92
25 Hz	---	-86	---
50 Hz	---	---	-114
100 Hz	-138	---	-129
500 Hz	---	---	-146
1 kHz	-150	---	-150
2 kHz	---	---	-160
10 kHz	-170	---	---
100 kHz	-174	---	---
1 MHz	-175	---	---
10 MHz	-180	---	---

### G-Sensitivity

$\leq 2 \times 10^{-11}$  /g per axis, typical from 5 Hz to 300 Hz

$\leq 2 \times 10^{-10}$  /g per axis, typical from >300 Hz to 2 kHz  
(Configured with shock mount provisions for vibration  
isolation option for effective g-sensitivity to 5E-12/g)

### Temperature Stability

$\pm 5 \times 10^{-8}$ , 0° to +50°C (Ref +25°C)

### Harmonics

$\leq -30$  dBc

### Sub-harmonics

$\leq -80$  dBc

### PLL Products

$\leq -80$  dBc

### Spurious

$\leq -90$  dBc,  $\pm 100$  kHz, excluding  
power supply line related spurs

### Frequency Accuracy

$\pm 1 \times 10^{-7}$ , typical (at time of shipment)

### Retrace

To within  $\pm 2 \times 10^{-7}$  of Fo when on  
for 24 hrs after 48 hours off time.

## MECHANICAL

### Dimensions

3.75 x 3.5 x 0.9"

### Connectors

RF Output: SMA(f)

DC Power & Control:

Feed thru capacitor solder pins

### Packaging

Nickel-plated machined steel enclosure

### Mounting

Threaded Inserts, #2-56, 8 places, 0.150" deep

Tapped Holes for Mounts, # 0.06-80, 16 places

### Weight

$\leq 1.5$  lbs.

## POWER REQUIREMENTS

### Warm-Up Power

$\leq 9$  Watts for 5 minutes @ +25°C

### Total Steady-State Power

$\leq 7$  Watts @ 0°C

$\leq 5$  Watts @ +25°C

$\leq 3$  Watts @ +50°C

### Supply Voltage

+15 VDC  $\pm 5\%$

## ADJUSTMENT

### Electrical Tuning

$\pm 1.5 \times 10^{-6}$  min., 0 to +8 VDC

Positive Slope

## CRYSTAL

### Type

(2) 100 MHz SC-cut (Low-g)

## ENVIRONMENT

### Operating Temperature

0° to +50°C

### Storage Temperature

-40° to +85°C

### Harmonic Vibration Profile

Per modified MIL-STD-167-1, Type I

4 to 25 Hz

### Random Vibration Profile (0.74 G<sub>RMS</sub>)

5 Hz to 20 Hz, 0.02 g<sup>2</sup>/Hz

2000 Hz, 0.0000001 g<sup>2</sup>/Hz

(-26.5 dB/decade slope from 20 Hz to 2 kHz)

## OTHER

### Design

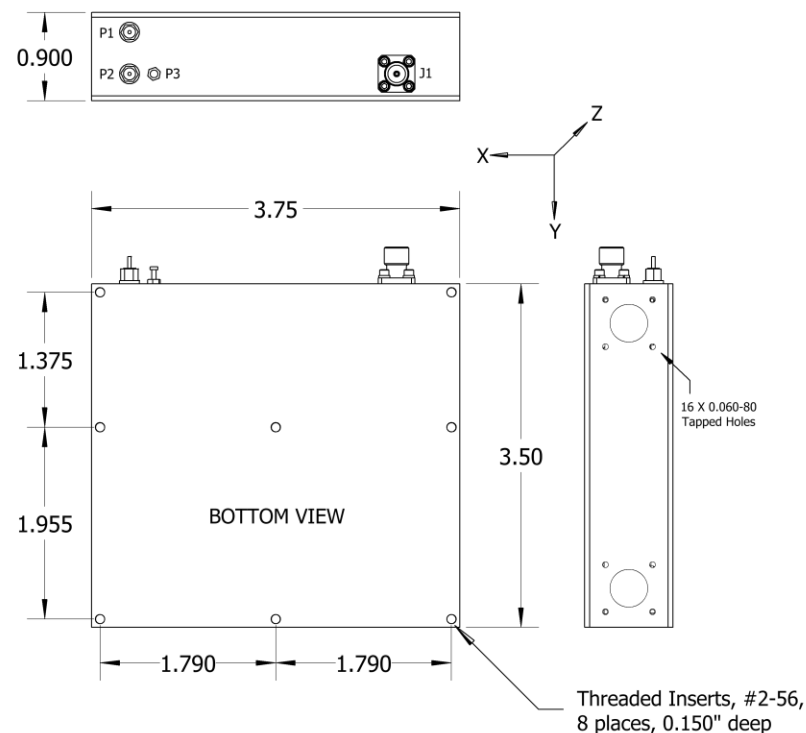
Vibration compensation system for best noise  
under vibration utilizing Bootstrap Technology

### Test Data

- Output Level
- Phase Noise, Static & Dynamic
- Temperature Stability
- Harmonics, Subs, Products, Spurs
- Power – Warm-up and Total
- Electrical Tuning

REV	DATE	REVISION RECORD	DWN	AUTH
-	03-24-17	Initial Release	PAC	
A	11-5-18	1 kHz to -150 dBc/Hz	PAC	KB

Connector	Function
P1	Electrical Tuning
P2	Supply Voltage
P3	Ground, Case
J1	RF Output



**Wenzel Associates, Inc.**

Austin, Texas

Title:

**100 MHz Bootstrap Low G-Sensitivity Oscillator**

P/N:

**501-30736**

Rev:

**A**

Date:

**11-5-18**

Drawn:

Ref:

Tolerances:  
(except as noted)  
Dimensions are in inches

0.XX Dec:

**$\pm 0.030$ "**

0.XXX Dec:

**$\pm 0.010$ "**

FSCM:

**62821**

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