

## OUTPUT

**Frequency**  
12.0 GHz

**Level**  
+16 dBm  $\pm 2$  dB into 50 ohms

## STABILITY

**Aging**  
 $1 \times 10^{-6}$  first year  
after 30 days operating, typical  
 $5 \times 10^{-7}$  second year, typical  
 $3 \times 10^{-7}$  per year thereafter, typical

## Phase Noise L(f), typical

100 Hz -88 dBc/Hz  
1 kHz -112 dBc/Hz  
10 kHz -135 dBc/Hz  
100 kHz -137 dBc/Hz  
1 MHz -138 dBc/Hz

## Temperature Stability

$\pm 5 \times 10^{-7}$ , 0 to +50°C (Ref. +25°C)

## Harmonics

-25 dBc

## Sub-Harmonics

-60 dBc

## Spurious

-80 dBc, excluding power  
supply line related spurs

## MECHANICAL

### Dimensions

5.16 x 4 x 1"

### Connectors

SMA(f)'s and solder pins on side

### Packaging

Nickel-plated machined  
aluminum housing – G3

### Mounting

Threaded inserts on base,  
#2-56, 6 places, 0.190" deep

## POWER REQUIREMENTS

### Warm-Up Power

$\leq 17$  Watts for 5 minutes

### Total Power

$\leq 13.5$  Watts at +25°C

### Supply Voltage

+15 VDC  $\pm 5\%$

## ADJUSTMENT

### Mechanical Tuning

$\pm 4 \times 10^{-6}$

### Electrical Tuning

$\pm 5 \times 10^{-7}$ ,  $\pm 5$  VDC  
Negative slope

## CRYSTAL

### Type

120 MHz SC-cut (x100)

## OTHER

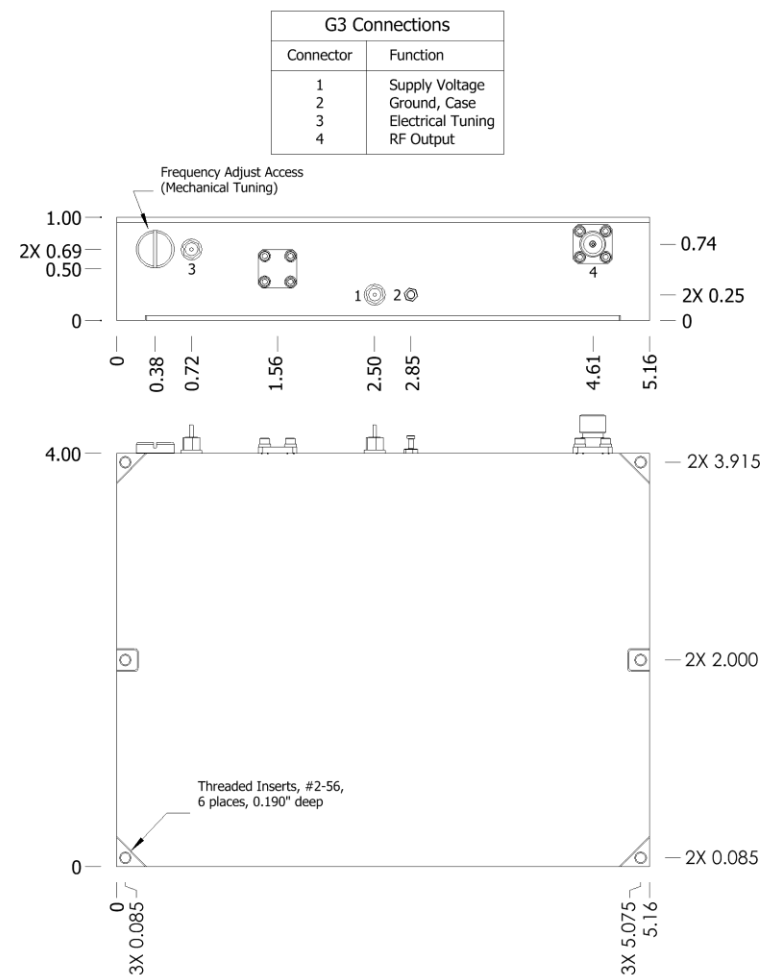
### Label

Use conventional label with the  
following information:  
501-27304 (Current Rev.)  
12 GHz GMXO-FR  
+15 VDC  
Serial # - Date Code  
(Mark connectors with function)

### Test Data

Output Level  
Phase Noise  
Temperature Stability  
Harmonics, Subs, Spurious  
Power – Warm-up and Total  
Tuning – MT and ET

REV	DATE	REVISION RECORD	DWN	AUTH
-	11-01-13	Initial Release	Liz	
A	02-06-14	Output Level to +16 dBm	PAC	



**Wenzel Associates, Inc.**

Austin, Texas

Title:

**12.0 GHz Golden Multiplied Crystal Oscillator  
(GMXO-FR)**

P/N:

**501-27304**

Rev:

**A**

Date:

**02-06-14**

Drawn:

**62821**

Ref:

**501-27178**

Tolerances:  
(except as noted)  
Dimensions are in inches

0.XX Dec:  
 **$\pm 0.030$ "**

0.XXX Dec:  
 **$\pm 0.010$ "**

FSCM:  
**62821**

Page **1** of **1**