

## OUTPUT

### Frequency

3 GHz

### Level

+13 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

1 Hz -46 dBc/Hz  
10 Hz -74 dBc/Hz  
100 Hz -101 dBc/Hz  
1 KHz -122 dBc/Hz  
10 KHz -132 dBc/Hz  
30 KHz -134 dBc/Hz  
100 KHz -141 dBc/Hz  
1 MHz -160 dBc/Hz  
3 MHz -162 dBc/Hz  
10 MHz -162 dBc/Hz  
20 MHz -162 dBc/Hz

### Total RMS Jitter

4.48 fs, typical  
With integration bandwidth: 12 kHz to 20 MHz

### Temperature Stability

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

### Harmonics

$\leq -25$  dBc

### Sub-Harmonics

$\leq -60$  dBc

### Spurious

$\leq -80$  dBc, excluding power  
supply line related spurs

## MECHANICAL

### Dimensions

3.21 x 4 x 1"

### Connectors

SMA(f) and solder pins

### Packaging

Nickel-plated machined  
aluminum housing – J2

### Mounting

Threaded inserts on base,  
#2-56, 6 places

## POWER REQUIREMENTS

### Warm-Up Power

$\leq 15$  Watts for 5 minutes

### Total Power

$\leq 11.5$  Watts at  $+25^\circ\text{C}$

### 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

100 MHz SC-cut (x30)

## OTHER

### Label

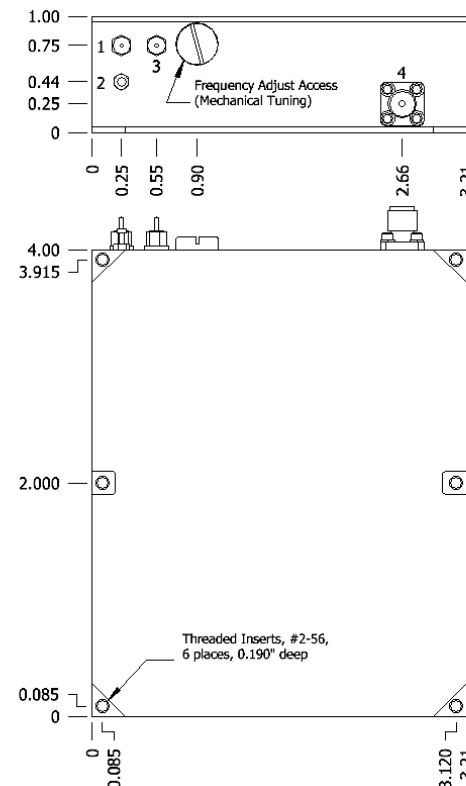
Use conventional label with the  
following information:  
501-29992 (Current Rev.)  
3 GHz Golden-Q-MXO-FR  
+15 VDC  
Serial # - Date Code  
(Mark connectors with function)

### 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
-	04-22-16	Initial Release	PAC	

J2 MXO Connections	
Connector	Function
1	Supply Voltage
2	Ground, Case
3	Electrical Tuning
4	RF Output



**Wenzel Associates, Inc.**

Austin, Texas

Title:

**3 GHz Golden-Q Multiplied  
Crystal Oscillator (GQM XO-FR)**

P/N: <b>501-29992</b>	Rev: <b>-</b>	Date: <b>04-22-16</b>	Drawn:	Ref: 501-28134
Tolerances: (except as noted) Dimensions are in inches		0.XX Dec: <b><math>\pm 0.030</math>"</b>	0.XXX Dec: <b><math>\pm 0.010</math>"</b>	FSCM: <b>62821</b>

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