

## INPUT

### Frequency

10 MHz

### Level

+7 dBm  $\pm$ 6 dB into 50 ohms

## OUTPUT

### Frequency

1 GHz

### Level

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

## STABILITY

### Aging

1 x 10<sup>-6</sup> first year

after 30 days operating, typical

5 x 10<sup>-7</sup> second year, typical

3 x 10<sup>-7</sup> per year thereafter, typical

### Phase Noise L(f), typical

10 Hz -86 dBc/Hz

100 Hz -113 dBc/Hz

1 KHz -134 dBc/Hz

10 KHz -144 dBc/Hz

30 KHz -146 dBc/Hz

100 KHz -153 dBc/Hz

1 MHz -172 dBc/Hz

3 MHz -174 dBc/Hz

10 MHz -174 dBc/Hz

### Integrated Jitter

10 Hz to 20 MHz

### Temperature Stability

$\pm$ 5 x 10<sup>-7</sup> free-running from 0 to

+50°C

(Ref. +25°C)

### Harmonics

-25 dBc

### Sub-Harmonics

-60 dBc

### PLL Divider Products

-60 dBc

### Spurious

-80 dBc, excluding power  
supply line related spurs

### Phase Lock Alarm

TTL

Locked: +3.5 VDC to +5.2 VDC (Hi)

Out-of-Lock: +0.8 VDC max (Lo)

## Phase Lock Voltage Monitor

Voltage monitor pin supplied

## MECHANICAL

### Dimensions

4.4 x 4 x 1"

### Connectors

SMA(f) and solder pins

### Packaging

Nickel-plated machined  
aluminum housing – J2P

### Mounting

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

## POWER REQUIREMENTS

### Warm-Up Power

$\leq$  13 Watts for 5 minutes

### Total Power

$\leq$  10 Watts at +25°C

### Supply Voltage

+15 VDC  $\pm$ 5%

## ADJUSTMENT

### Loop BW

Target Bandwidth:  $\leq$  10 Hz

Type 2 Loop

## CRYSTAL

### Type

100 MHz SC-cut (x10)

## OTHER

### Label

Use conventional label with the  
following information:

501-28182 (Current Rev.)

1 GHz Golden-Q-MXO-PLD

+15 VDC

Serial # - Date Code

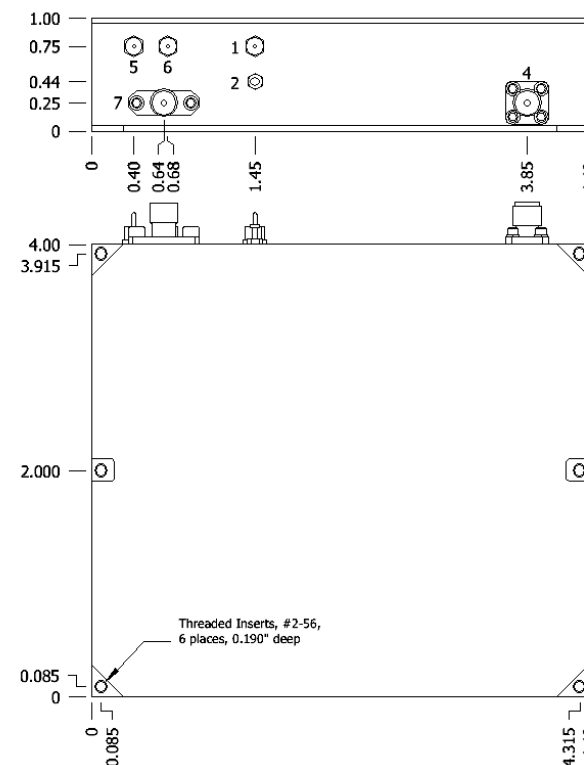
(Mark connectors with function)

### Test Data

- Output Level
- Phase Noise – free-running
- Temperature Stability – free-running
- Harmonics, Subs, Products, Spurious
- Power – Warm-up and Total

REV	DATE	REVISION RECORD	DWN	AUTH
-	06-17-14	Initial Release	Liz	

J2P MXO Connections	
Connector	Function
1	Supply Voltage
2	Ground, Case
4	RF Output
5	Phase Lock Voltage
6	Phase Lock Alarm
7	External Reference Input



**Wenzel Associates, Inc.**

Austin, Texas

Title:

**1 GHz Golden-Q Multiplied  
Crystal Oscillator (GQMXP-PLD)**

P/N:

**501-28182**

Rev:

**-**

Date:

**06-17-14**

Drawn:

Ref:

24798

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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