

INPUT

Frequency

10 MHz

Level

+7 dBm ± 6 dB into 50 ohms

OUTPUT

Frequency

1 GHz

Level

+17 dBm ± 2 dB into 50 ohms

STABILITY

Aging (free-running)

1×10^{-6} first year

after 30 days operating, typical

5×10^{-7} second year, typical

3×10^{-7} 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 -150 dBc/Hz

30 KHz -151 dBc/Hz

100 KHz -153 dBc/Hz

1 MHz -172 dBc/Hz

3 MHz -174 dBc/Hz

10 MHz -174 dBc/Hz

Temperature Stability

$\pm 5 \times 10^{-7}$ 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

RF Input/Output: SMA(f)

Power, Monitoring: Feed Thru Terminals

GND: Ground Turret

Packaging

Nickel-plated machined
aluminum housing – J2P

Mounting

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

POWER REQUIREMENTS

Warm-Up Power

≤ 14 Watts for 5 minutes

Total Power

≤ 10.5 Watts at +25°C

Supply Voltage

+15 VDC $\pm 5\%$

ADJUSTMENT

Loop BW

Target Bandwidth: ≤ 10 Hz

Type 2 Loop

CRYSTAL

Type

100 MHz SC-cut (x10)

OTHER

Design

Includes a SAW filter for improving the
phase noise beyond the ~300 kHz offset.

Label

Use conventional label with the
following information:

501-29465 (Current Rev.)

1 GHz GQMXO-PLD

+15 VDC

Serial # - Date Code

(Mark connectors with function)

Test Data

- Output Level

- Phase Noise – free-running

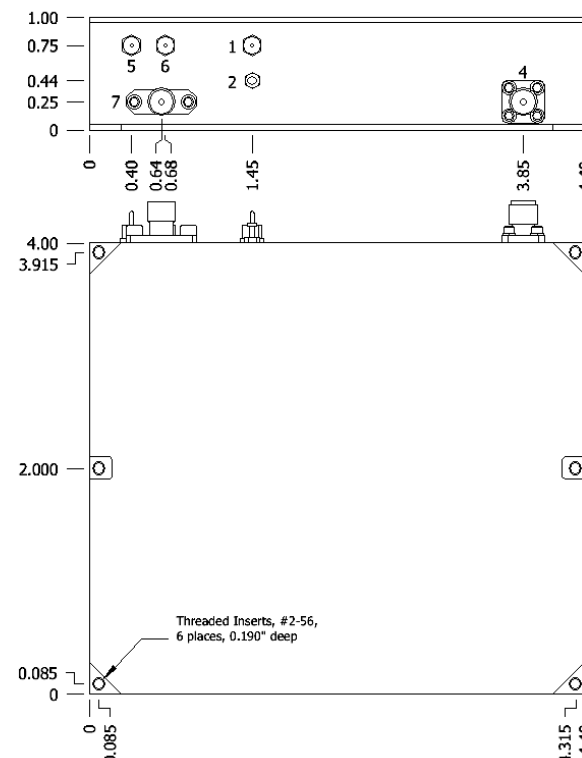
- Temperature Stability – free-running

- Harmonics, Subs, Products, Spurious

- Power – Warm-up and Total

REV	DATE	REVISION RECORD	DWN	AUTH
-	10-13-15	Initial Release	Liz	
A	10-18-15	10K, 30K noise	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 (GQMXO-PLD)

P/N: 501-29465	Rev: A	Date: 10-18-15	Drawn:	Ref: 25722
Tolerances: (except as noted) Dimensions are in inches	0.XX Dec: ± 0.030"	0.XXX Dec: ± 0.010"	FSCM: 62821	Page 1 of 1