

INPUT

Frequency

10 MHz

Level

+7 dBm ± 6 dB into 50 ohms

OUTPUT

Frequency

1 GHz

Level

+13 dBm ± 2 dB into 50 ohms

STABILITY

Aging (free-running)

1 x 10⁻⁶ first year

after 30 days operating, typical

5 x 10⁻⁷ second year, typical

3 x 10⁻⁷ per year thereafter, typical

Phase Noise L(f), (free-running)

100 Hz -109 dBc/Hz

1 KHz -136 dBc/Hz

10 KHz -153 dBc/Hz

100 KHz -154 dBc/Hz

1 MHz -160 dBc/Hz

10 MHz -165 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 Reference 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

5.36 x 4 x 1"

Connectors

RF Input/Output: SMA(f)

Power, Monitoring: Feed Thru Terminals

GND: Ground Turret

Packaging

Nickel-plated machined

aluminum housing – J2PM

Mounting

Threaded inserts on base,

#2-56, 6 places

POWER REQUIREMENTS

Warm-Up Power

≤ 16 Watts for 5 minutes

Total Power

≤ 13 Watts at +25°C

Supply Voltage

+15 VDC $\pm 5\%$

ADJUSTMENT

Loop BW

Target Bandwidth: ~200 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:

501-25759 (Current Rev.)

1 GHz MXO-PLM

+15 VDC

Serial # - Date Code

(Mark connectors with function)

Test Data

- Output Level

- Phase Noise – free-running

- Temperature Stability – free-running

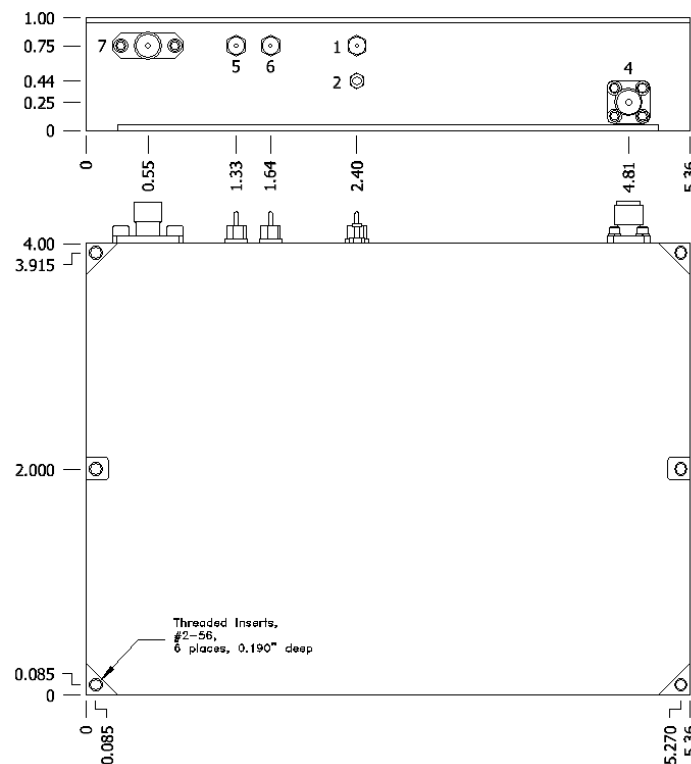
- Harmonics, Subs, Products, Spurious

- Power – Warm-up and Total

REV	DATE	REVISION RECORD	DWN	AUTH
-	06-04-12	Initial Release	PAC	

J2PM 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 Multiplied Crystal Oscillator (MXO-PLM)

P/N:

501-25759

Rev:

-

Date:

06-04-12

Drawn:

Ref:

23202a

Tolerances:
(except as noted)
Dimensions are in inches

0.XX Dec:

± 0.030 "

0.XXX Dec:

± 0.010 "

FSCM:

62821

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