

INPUT

Frequency

10 MHz

Level

+13 dBm \pm 1 dB into 50 ohms

OUTPUT

Frequency

13.5 GHz

Level

+13 dBm \pm 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), typical, (free-running)

100 Hz -78 dBc/Hz

1 KHz -106 dBc/Hz

10 KHz -126 dBc/Hz

100 KHz -127 dBc/Hz

Temperature Stability

\pm 5 x 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

6.31 x 4 x 1"

Connectors

RF Input/Output: SMA(f)

Power, Monitoring: Feed Thru Terminals

GND: Ground Turret

Packaging

Nickel-plated machined
aluminum housing – J3PM

Mounting

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

POWER REQUIREMENTS

Warm-Up Power

\leq 20.5 Watts for 5 minutes

Total Power

\leq 17 Watts at +25°C

Supply Voltage

+15 VDC \pm 5%

ADJUSTMENT

Loop BW

Target Bandwidth: ~200 Hz

Type 2 Loop

CRYSTAL

Type

90 MHz SC-cut (x150)

OTHER

Label

Use conventional label with the
following information:

501-31000 (Current Rev.)

13.5 GHz MXO-PLM

+15 VDC

Serial # - Date Code

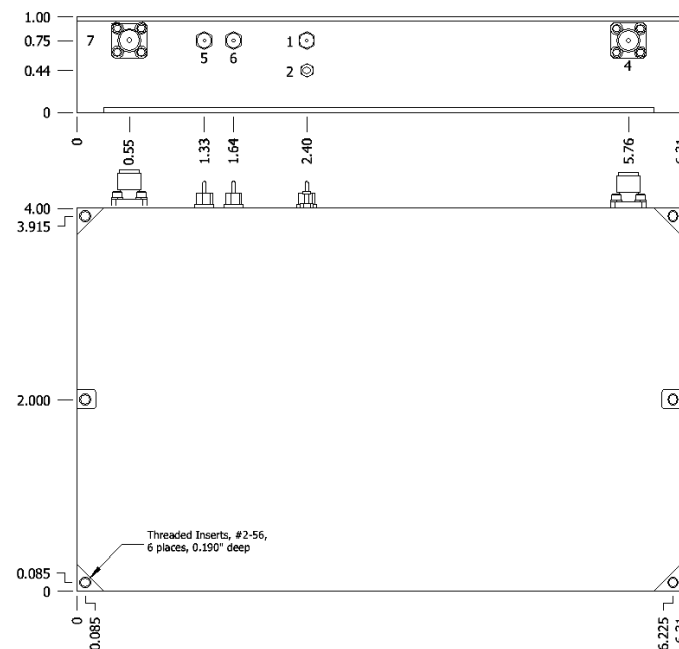
(Mark connectors with function)

Test Data

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

REV	DATE	REVISION RECORD	DWN	AUTH
-	06-20-17	Initial Release	CB	

J3PM 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:

13.5 GHz Multiplied Crystal Oscillator (MXO-PLM)

P/N:

501-31000

Rev:

-

Date:

06-20-17

Drawn:

Ref:

28931

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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