

## INPUT

### Frequency

10 MHz

### Level

+13 dBm  $\pm 1$  dB into 50 ohms

## OUTPUT

| RF Output | Frequency | Output Level<br>(into 50 ohms) |
|-----------|-----------|--------------------------------|
|-----------|-----------|--------------------------------|

|   |         |                    |
|---|---------|--------------------|
| A | 100 MHz | +13 dBm $\pm 2$ dB |
|---|---------|--------------------|

|   |       |                    |
|---|-------|--------------------|
| B | 3 GHz | +13 dBm $\pm 2$ dB |
|---|-------|--------------------|

## STABILITY

### Aging (free-running)

$1 \times 10^{-6}$  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, (free-running)

|  | 100 MHz | 3 GHz |
|--|---------|-------|
|--|---------|-------|

|       |      |     |
|-------|------|-----|
| 10 Hz | -100 | -68 |
|-------|------|-----|

|        |      |     |
|--------|------|-----|
| 100 Hz | -130 | -98 |
|--------|------|-----|

|       |      |      |
|-------|------|------|
| 1 kHz | -158 | -125 |
|-------|------|------|

|        |      |      |
|--------|------|------|
| 10 kHz | -175 | -142 |
|--------|------|------|

|         |      |      |
|---------|------|------|
| 100 kHz | -176 | -143 |
|---------|------|------|

### 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-03

### Mounting

Threaded inserts on base,

6 places, #2-56

## POWER REQUIREMENTS

### Warm-Up Power

$\leq 18$  Watts for 5 minutes

### Total Power

$\leq 14$  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 (x30)

## OTHER

### Label

Use conventional label with the  
following information:

501-28528 (Current Rev.)

100M/3G MXO-PLM

+15 VDC

Serial # - Date Code

(Mark connectors with function)

### Test Data

- Output Level

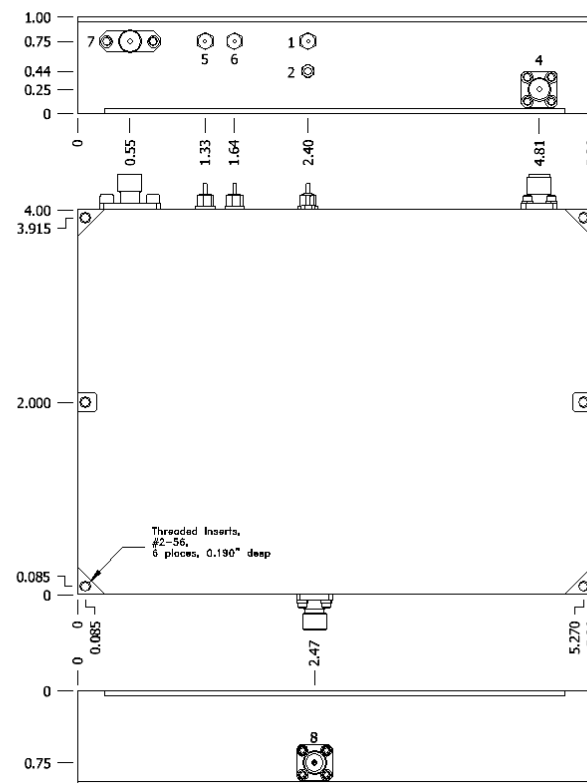
- Phase Noise – free-running

- Harmonics, Subs, Products, Spurious

- Power – Warm-up and Total

| REV | DATE     | REVISION RECORD | DWN | AUTH |
|-----|----------|-----------------|-----|------|
| -   | 10-23-14 | Initial Release | PAC |      |
|     |          |                 |     |      |
|     |          |                 |     |      |
|     |          |                 |     |      |
|     |          |                 |     |      |

| J2PM-03 MXO Connections |                          |
|-------------------------|--------------------------|
| Connector               | Function                 |
| 1                       | Supply Voltage           |
| 2                       | Ground, Case             |
| 4                       | RF Output B              |
| 5                       | Phase Lock Voltage       |
| 6                       | Phase Lock Alarm         |
| 7                       | External Reference Input |
| 8                       | RF Output A              |



## Wenzel Associates, Inc.

Austin, Texas

Title:

**100M/3G Multiplied Crystal Oscillator (MXO-PLM)**

P/N:

**501-28528**

Rev:

**-**

Date:

**10-23-14**

Drawn:

Ref:

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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