

## INPUT

### Frequency

10 MHz

### Level

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

## OUTPUTS

| RF Output | Frequency | Output Level<br>(into 50 ohms) |
|-----------|-----------|--------------------------------|
| A         | 250 MHz   | +13 dBm $\pm$ 2 dB             |
| B         | 1 GHz     | +13 dBm $\pm$ 2 dB             |

## STABILITY

### Aging (free-running)

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), dBc/Hz, typical, (free-running)

|         | 250 MHz | 1 GHz |
|---------|---------|-------|
| 10 Hz   | -83     | -70   |
| 100 Hz  | -113    | -100  |
| 1 kHz   | -143    | -129  |
| 10 kHz  | -167    | -153  |
| 100 kHz | -168    | -154  |
| 1 MHz   | -168    | -154  |

### 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

RF Input/Outputs: SMA(f)  
Power, Monitoring: Feed Thru Terminals  
GND: Ground Turret

### Packaging

Nickel-plated machined  
aluminum housing – J2P-13

### Mounting

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

## POWER REQUIREMENTS

### Warm-Up Power

$\leq$  12 Watts for 5 minutes

### Total Power

$\leq$  9 Watts at +25°C

### Supply Voltage

+15 VDC  $\pm$ 5%

## ADJUSTMENT

### Loop BW

Target Bandwidth:  $\leq$  10 Hz  
Type 2 Loop

## CRYSTAL

### Type

125 MHz SC-cut (x2, x2, x2)

## OTHER

### Label

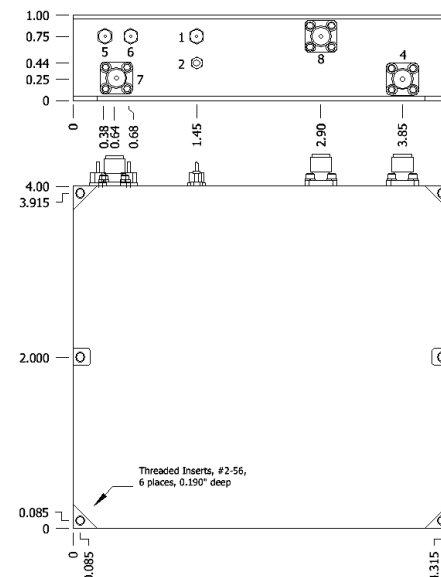
Use conventional label with the  
following information:  
501-29103 (Current Rev.)  
250M/1G MXO-PLD  
+15 VDC  
Serial # - Date Code  
(Mark connectors with function)

### 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 |
|-----|----------|-----------------|-----|------|
| -   | 06-04-15 | Initial Release | CB  |      |
|     |          |                 |     |      |
|     |          |                 |     |      |
|     |          |                 |     |      |
|     |          |                 |     |      |

| J2P-13 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:

**250 MHz & 1 GHz  
Multiplied Crystal Oscillator (MXO-PLD)**

P/N:

**501-29103**

Rev:

**-**

Date:

**06-04-15**

Drawn:

**62821**

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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