INPUT

Frequency
10 MHz

Level
+7 dBm ±6 dB into 50 ohms

OUTPUT

Frequency
12 GHz

Level
+13 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, (free-running)

100 Hz	-85 dBc/Hz
1 KHz	-111 dBc/Hz
10 KHz	-126 dBc/Hz
100 KHz	-127 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
5.36 x 4 x 1”

Connectors
SMA(f)’s and solder pins on side
Feed-thru terminals for lock alarm, supply and phase lock voltage monitor

Packaging
Nickel-plated machined aluminum housing – J3P

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

POWER REQUIREMENTS

Warm-Up Power
≤ 19 Watts for 5 minutes

Total Power
≤ 15.5 Watts at +25°C

Supply Voltage
+15 VDC ±5%

ADJUSTMENT

Loop BW
Target Bandwidth: <10 Hz
Type 2 Loop

CRYSTAL

Type
100 MHz SC-cut (x120)

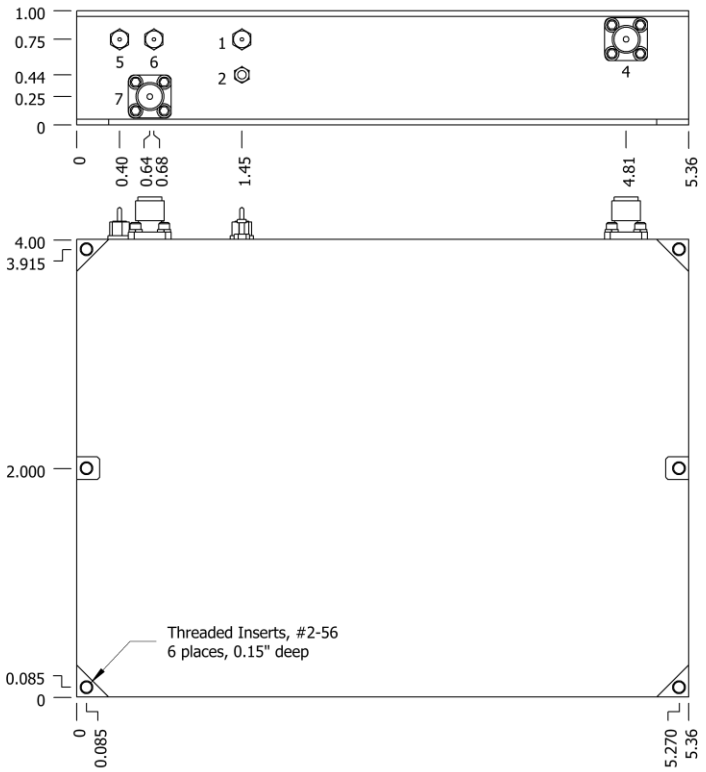
OTHER

Label
Use conventional label with the following information:
501-24245 (Current Rev.)
12 GHz 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, Spurious
Power – Warm-up and Total

REV	DATE	REVISION RECORD	DWN	AUTH
-	07-13-11	Initial Release	PAC	

J3P 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:
12 GHz Multiplied Crystal Oscillator (MXO-PLD)

P/N:	Rev:	Date:	Drawn:	Ref:
501-24245	**-**	**07-13-11**		

Tolerances: (except as noted) Dimensions are in inches	0.XX Dec:	0.XXX Dec:	FSCM:	Page 1 of 1
	±0.030”	±0.010”	62821	