INPUT
Frequency
  10 MHz
Level
  +13 dBm ±1 dB into 50 ohms
OUTPUT
Frequency
  2.4 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   -100 dBc/Hz
  1 KHz   -127 dBc/Hz
  10 KHz   -144 dBc/Hz
  100 KHz   -145 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
  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
  ≤ 17.5 Watts for 5 minutes
Total Power
  ≤ 14 Watts at +25°C
Supply Voltage
  +15 VDC ±5%
ADJUSTMENT
Loop BW
  Target Bandwidth: ~200 Hz
  Type 2 Loop
CRYSTAL
Type
  100 MHz SC-cut (x24)
OTHER
Label
  Use conventional label with the
  following information:
  501-29195 (Current Rev.)
  2.4 GHz MXO-PLM
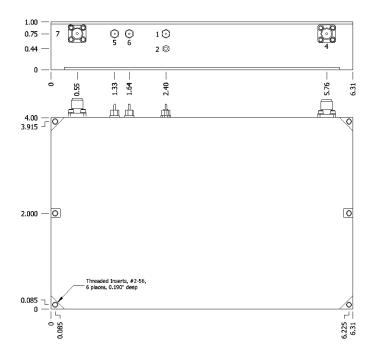 +15 VDC
  Serial # - Date Code
  (Mark connectors with function)
Test Data
  - Output Level
  - Phase Noise – free-running
  - Harmonics, Subs, Products, Spurious
  - Power – Warm-up and Total

REV	DATE	REVISION RECORD	DWN	AUTH
-	07-02-15	Initial Release	CB	
A	09-23-15	Changed Tempco range to 0 to +50C	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

Threaded Inserts, #2-56,
6 places, 0.190" deep

Wenzel Associates, Inc.
Austin, Texas

Title:
2.4 GHz Multiplied Crystal Oscillator (MXO-PLM)

P/N: **501-29195**	Rev: **A**	Date: **09-23-15**	Drawn:	Ref: 28931

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