WENZEL ASSOCIATES

OCXO
MXO-PLMX

"QUIETLY THE BEST"

LOW NOISE CRYSTAL OSCILLATORS > MXO (W. INTERNAL REFERENCE)

FEATURES:

- OCXOs with Integrated Multipliers
- Includes Internal HF ULN OCXO Reference
- References from 200 MHz to 12 GHz, fixed
- Ultra Low Phase Noise Performance
- Excellent Aging and Temperature Stability
- Excellent Spectral Purity
- Easily Customized to Specific Frequency

APPLICATIONS:

- Military Applications
- Radar Systems
- Test Equipment
- Instruments
- Reference Source

Electrical Specifications		
Output Frequency (fixed; specify within range)		**200 MHz to 12 GHz**
Output Level		+13 dBm ±2 dB into 50 ohms
Aging		
Per day after 30 days operating, typical		5×10^{-10}
Second year, typical		5×10^{-8}
Per year thereafter, typical		3×10^{-8}
Temperature Stability (consult factory for other ranges)		
Range E:	0 to +50°C (Ref: +25°C)	$\leq \pm 5 \times 10^{-9}$
Range F:	-20 to +70°C (Ref: +25°C)	$\leq \pm 2 \times 10^{-7}$
Phase Noise		*(Frequency Dependent: See Std Specifications and Part Numbers table below for details)*
Harmonics		≤ -25 dBc
Sub-Harmonics		≤ -60 dBc
Spurious		≤ -80 dBc
Tuning		
- Mechanical Tuning		$\geq \pm 1 \times 10^{-6}$, typical
- Electrical Tuning	Tuning A: 0 to +10 VDC	N/A
	Tuning B: ±5 VDC	N/A
	Slope: Negative	
Supply Voltage		+15 VDC or +12 VDC (±5%)
Warm-up		≤ 16.5 to 27 Watts for 5 minutes at +25°C
Total		≤ 9.5 to 20 Watts at +25°C
Crystal Type		SC-cut
Acceleration Sensitivity		5×10^{-10}/g, typical; to 2×10^{-10}/g, available

Mechanical	
Packaging	Nickel-Plated Machined Aluminum
Dimensions	See Mechanical Drawing
Connectors / Mounting	SMA(f) and solder pins on side Threaded Inserts, #2-56, 9 to 11 places

DESCRIPTION:

The Multiplied Crystal Oscillator (MXO-PLMX) is a fixed frequency industry leading ultra-low noise OCXO, which is phase locked to an internal HF ULN OCXO, and highly integrated with one or more low noise multipliers stages to create a high performance frequency signal between 200 MHz and 12 GHz. The MXO-PLMX also provides excellent aging, temperature stability and spectral purity performance. Additional frequency multipliers are used to multiply the internal reference up to phase lock at the internal VHF oscillator frequency. A higher loop bandwidth (~250 Hz, typ) allows the close-in phase noise of the MXO output to be improved since the ultra-low noise HF internal reference provides superior close-in phase noise. The internal ULN reference signal, typically 10 MHz, is also provided and can be used for system synchronization or simply as a clean reference signal when needed. The package varies depending on the number of multiplier stages needed to create the desired frequency and range in size from 5.56" x 4" x 1", 4" x 1" and 7.46" x 4" x 1". The base VHF oscillator frequency and multiple outputs are available as options. (i.e. If ordering a 10 GHz MXO-PLMX, you may also request the 100 MHz, 500 MHz, and 5 GHz outputs since they are also being created in the multiplier string.) An internal voltage regulator is provided for excellent power supply line rejection. Please consult the factory if you need any specifications to be modified to better suit your application.

WENZEL ASSOCIATES

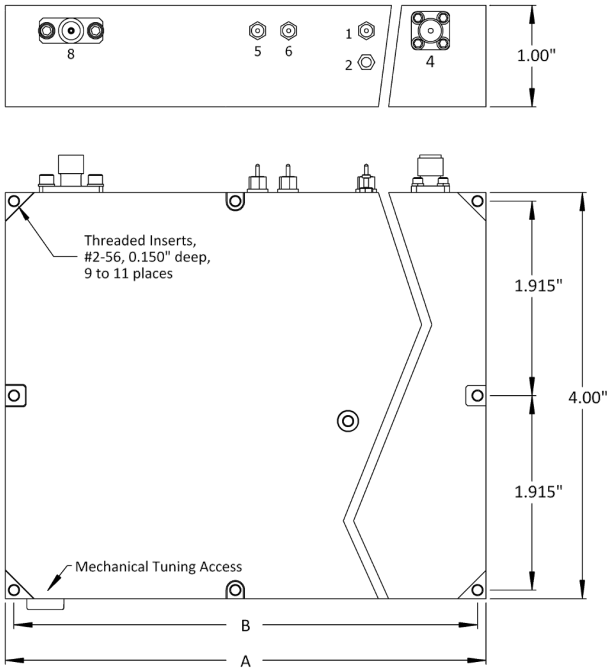
2215 Kramer Lane, Austin, Texas 78758-4002 • www.wenzel.com
Phone: 512-835-2038 • Fax: 512-719-4086 • sales@wenzel.com

WENZEL ASSOCIATES

OCXO
MXO-PLMX

"QUIETLY THE BEST"

LOW NOISE CRYSTAL OSCILLATORS > MXO (W. INTERNAL REFERENCE)



MXO-PLMX

Package	Dimension A	Dimension B
J1PMX	5.56"	5.385"
J2PMX	6.51"	6.340"
J3PMX	7.46"	7.295"

Connector	Function
1	Supply Voltage
2	Ground, Case
4	RF Output B
5	Phase Lock Voltage
6	Phase Lock Alarm
8	RF Output A

Standard Specifications and Part Numbers * *

Part Number	Output Frequency * (MHz)	Typical Phase Noise (dBc/Hz), Static *					Output Level (dBm) * into 50 ohms	Temperature Stability (Ref: +25°C) *	Supply Voltage (VDC)	Acceleration Sensitivity (/g per axis) *	Package / Connectors	Package Size (inches)
		10 Hz	100 Hz	1 kHz	10 kHz	100 kHz						
501-25775	200/10	-113	-131	-150	-167	-169	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	5.56 x 4 x 1
501-25777	320/10	-109	-128	-143	-160	-162	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	5.56 x 4 x 1
501-25778	400/10	-107	-125	-143	-160	-162	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	5.56 x 4 x 1
501-25495	500/10	-105	-123	-142	-159	-161	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	5.56 x 4 x 1
501-25937	500/100/10	-105	-123	-142	-159	-161	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	5.56 x 4 x 1
501-25497	1000/10	-99	-117	-135	-152	-154	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	6.51 x 4 x 1
501-25938	1000/500/100/10	-99	-117	-135	-152	-154	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	6.51 x 4 x 1
501-25501	2000/10	-92	-110	-128	-145	-147	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	6.51 x 4 x 1
501-25781	640/10	-102	-121	-136	-153	-155	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	6.51 x 4 x 1
501-25505	10000/10	-77	-95	-112	-129	-132	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	7.46 x 4 x 1
501-25797	10240/10	-77	-96	-111	-128	-130	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	7.46 x 4 x 1
501-25799	12000/10	-75	-93	-110	-127	-129	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	7.46 x 4 x 1
501-25793	5120/10	-83	-102	-117	-134	-136	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	7.46 x 4 x 1
501-25794	6000/10	-81	-99	-117	-134	-136	+13 ±2	±5E-9, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	7.46 x 4 x 1

* Consult factory for custom frequency, phase noise performance, output level, temperature stability and acceleration sensitivity options.

* * See website for additional Standard Part Numbers and Specifications.

WENZEL ASSOCIATES

2215 Kramer Lane, Austin, Texas 78758-4002 • www.wenzel.com

Phone: 512-835-2038 • Fax: 512-719-4086 • sales@wenzel.com