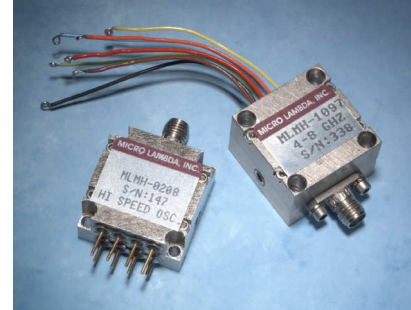


## FEATURES

- 2-8 GHz Frequency Coverage
- 80 uS/GHz Tuning Speed
- FM/Phase Lock Port
- 1% Linearity Under Sweep
- High Reliability



## DESCRIPTION

Micro Lambda, Inc. a leader in the development of next generation YIG devices now offers "High Speed" miniature YIG sources covering octave and multi-octave frequencies in the 2 to 8 GHz range. Designed specifically for speed, these oscillators tune 10 times faster than conventional YIG oscillators for new fast acquisition Test Equipment, Synthesizers, Single Slot VXI or VME based Instruments, as well as a multitude of general applications.

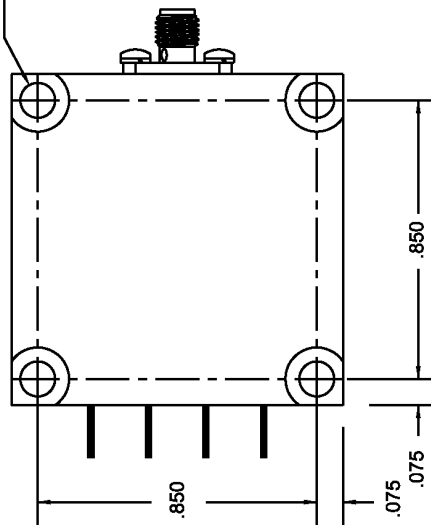
This series of YIG oscillators have been specifically designed for "Fast Tuning" applications. They incorporate a low inductance tuning coil in a small magnet structure covering standard frequency bands of 2-4, 3-6, 4-8 and 2-8 GHz. Performance characteristics of this family of oscillators is consistent with the standard MLMY-Series miniature oscillators. Typical phase noise of a 2-8 GHz "Fast Tune" oscillator at 100 kHz offset is -120 dBc/Hz. They provide +13 dBm power output, frequency linearity under sweep conditions of 1% with a 500 us ramp. Utilizing standard analog driver techniques with +24 Volt & -15 Volt inputs, the tuning speed of a 2-8 GHz oscillator is 80 uS per GHz to an accuracy of  $\pm 10$  MHz. With +15 Volt / -15 Volt driver inputs, the tuning speed is 100 us per GHz to an accuracy of  $\pm 10$  MHz.

## ELECTRICAL AND PERFORMANCE SPECIFICATIONS

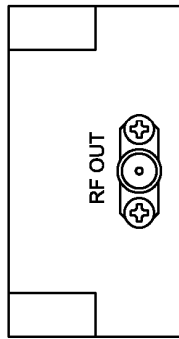
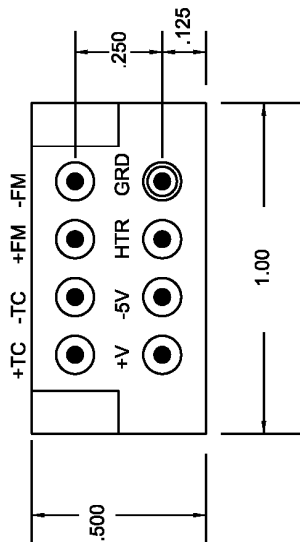
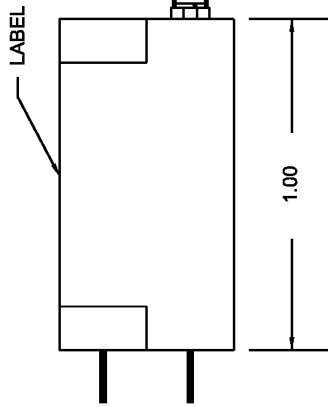
Guaranteed Specifications at  $-0^{\circ}$  to  $+65^{\circ}$  C Case Temperature

Model No.	MLMH-0204	MLMH-0306	MLMH-0408	MLMH-0208
Frequency Range, Min.	2-4 GHz	3-6 GHz	4-8 GHz	2-8 GHz
Power Output, Min.	+14 dBm	+14 dBm	+14 dBm	+13 dBm
Power Output Variation, Max.	+/- 2 dB	+/- 2 dB	+/- 2 dB	+/- 2 dB
Frequency Drift over Temperature, Max.	15 MHz	15 MHz	15 MHz	15 MHz
Pulling Figure (12 dB RL), Typ.	1 MHz	1 MHz	1 MHz	1 MHz
Pushing Figure +15 Vdc Supply, Typ.	0.1 MHz/V	0.1 MHz/V	0.1 MHz/V	0.1 MHz/V
-5 Vdc Supply, Typ.	1 MHz/V	1 MHz/V	1 MHz/V	1 MHz/V
Magnetic Susceptibility @ 60 Hz, Typ.	110 kHz/gauss	110 kHz/gauss	110 kHz/gauss	110 kHz/gauss
2nd Harmonic, Min.	-12 dBc	-12 dBc	-12 dBc	-12 dBc
3rd Harmonic, Min.	-20 dBc	-20 dBc	-20 dBc	-20 dBc
Spurious Output, Min.	-70 dBc	-70 dBc	-70 dBc	-70 dBc
Phase Noise @ 10kHz Offset min	-100 dBc/Hz	-100 dBc/Hz	-100 dBc/Hz	-100 dBc/Hz
@ 100kHz Offset min	-125 dBc/Hz	-125 dBc/Hz	-125 dBc/Hz	-125 dBc/Hz
@ 100kHz Offset typ	-128 dBc/Hz	-128 dBc/Hz	-128 dBc/Hz	-128 dBc/Hz
<b>Main Coil</b>				
Sensitivity, Typ.	10 MHz/mA	10 MHz/mA	10 MHz/mA	10 MHz/mA
3 dB Bandwidth, Typ.	25 kHz	25 kHz	25 kHz	25 kHz
Linearity, Typ.	+/- 0.25 %	+/- 0.25 %	+/- 0.25 %	+/- 0.25 %
Hysteresis, Typ.	3 MHz	3 MHz	5 MHz	8 MHz
Input Impedance @ 1 kHz, Typ.	4 Ohm / 4 mH	4 Ohm / 4 mH	4 Ohm / 4 mH	4 Ohm / 4 mH
<b>FM Coil</b>				
Sensitivity, Typ.	310 kHz/ma	310 kHz/ma	310 kHz/ma	310 kHz/ma
3 dB Bandwidth, Typ.	3 MHz	3 MHz	3 MHz	3 MHz
Deviation @ 400 kHz Rate, Min.	+/- 50 MHz	+/- 50 MHz	+/- 50 MHz	+/- 50 MHz
Input Impedance @ 1 MHz, Typ.	0.3 Ohm / 1.4uH	0.3 Ohm / 1.4uH	0.3 Ohm / 1.4uH	0.3 Ohm / 1.4uH
DC Circuit Power, Max.+15 Vdc +/- 5%	100 mA	100 mA	100 mA	100 mA
-5 Vdc +/- 5%	50 mA	50 mA	50 mA	50 mA
<b>YIG Heater Power</b>				
Input Voltage Range	+24 +/- 4 Vdc	+24 +/- 4 Vdc	+24 +/- 4 Vdc	+24 +/- 4 Vdc
Current Surge/Steady State, Max.	250 mA / 25 mA	250 mA / 25 mA	250 mA / 25 mA	250 mA / 25 mA
Case Style	81-041-1	81-041-1	81-041-1	81-041-1

.180 DIA x.25 DP  
.100 DIA. THRU  
(4 PL)



LABEL



REV	DESCRIPTION	DATE	APPROVED

**WEIGHT: 1 Oz.**

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE ARE :		CONTRACT NO.	
FRACTIONS	DECIMALS	APPROVALS	DATE
• .010	• .005	DRAWN N.INGUYEN	10/29/04
MATERIAL		CHECKED	ISSUED
FINISH		DO NOT SCALE DRAWING	
MICRO LAMBDA WIRELESS, INC.		SCALE	SHEET
<b>MINIATURE OSCILLATOR ( DUAL SUPPLY )</b>		SIZE	REV.
CAGE No.	DWG. NO.	81-041-1	
0RN63	81-041-1		