



MICRO LAMBDA WIRELESS, INC.

MLPW SERIES PERMANENT MAGNET YTO'S ULTRA WIDE TUNING RANGE and LOW PHASE NOISE



FEATURES

- 4 GHz Tuning Bandwidth
- 8-22 GHz Frequency Coverage
- FM/Phase-Lock Port
- Miniature Size
- High Reliability

DESCRIPTION

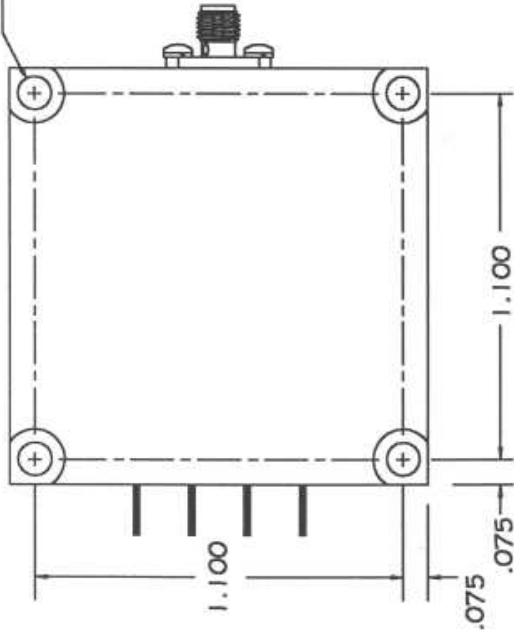
The MICRO LAMBDA MLPW-Series Permanent Magnet YIG-Tuned Oscillators are signal sources covering the frequency range of 8-22 GHz. They are available in any customer selected **4 GHz tuning bandwidth** (± 2 GHz). These oscillators have been specifically designed with the latest permanent magnet technology to yield excellent performance over temperature and environmental conditions. Extensive testing has been performed on these units to qualify them for QPSK, 16 QAM and 64 QAM Digital Radios where microphonics and phase-hits are not tolerated. The units are available in a standard 1.25 " x 1.25 " x.75" configuration with a field replaceable RF connector and weigh two ounces.

ELECTRICAL AND PERFORMANCE SPECIFICATIONS

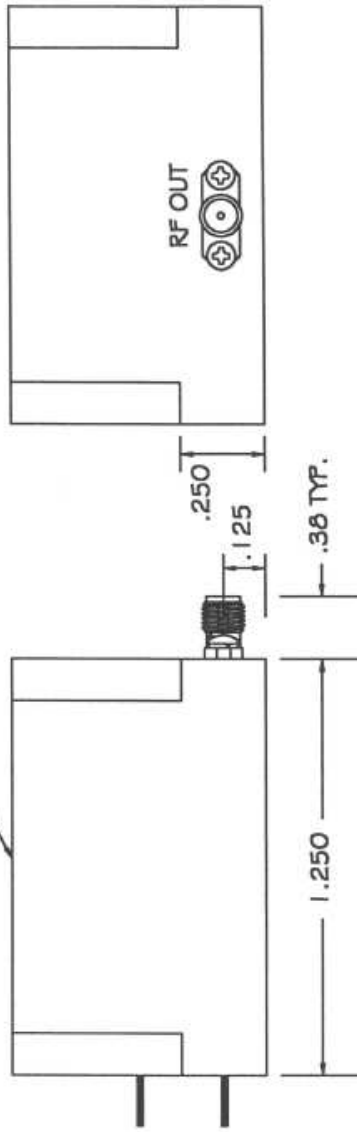
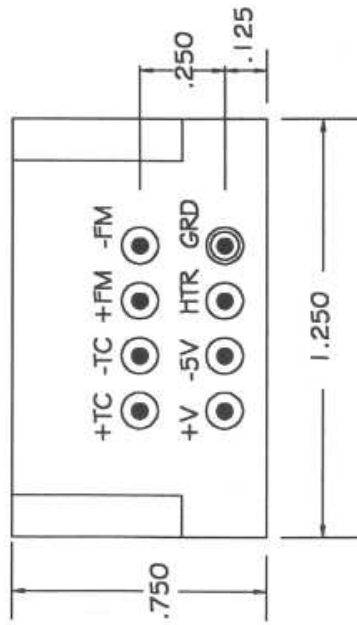
Guaranteed Specifications at -20° to $+70^{\circ}$ C Case Temperature

Model No.	MLPW-0812	MLPW-1014	MLPW-1418	MLPW-1822
Frequency Range, Min.	8-12 GHz	10-14 GHz	14-18 GHz	18-22 GHz
Free Run Frequency (w/o Main Coil)	10 GHz	12 GHz	16 GHz	20 GHz
Power Output, Min.	+13 dBm	+13 dBm	+13 dBm	+10 dBm
Power Output Variation, Max.	+/- 1.5 dB	+/- 1.5 dB	+/- 1.5 dB	+/- 2 dB
Frequency Drift over Temperature, Max.	20 MHz	20 MHz	20 MHz	20 MHz
Pulling Figure (12 dB RL), Typ.	1 MHz	1 MHz	1 MHz	1 MHz
Pushing Figure +12 Vdc Supply, Typ.	0.1 MHz/V	0.1 MHz/V	0.1 MHz/V	0.1 MHz/V
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	-95 dBc/Hz
@ 100kHz Offset Min.	-125 dBc/Hz	-125 dBc/Hz	-125 dBc/Hz	-120 dBc/Hz
Main Coil				
Sensitivity, Typ.	14 MHz/ma	14 MHz/ma	14 MHz/ma	10 MHz/ma
Linearity, Typ.	5 MHz	5 MHz	5 MHz	5 MHz
Hysteresis, Typ.	2 MHz	2 MHz	2 MHz	2 MHz
Input Impedance @ 1 kHz, Typ.	45 Ohm / 30 mH	45 Ohm / 30 mH	45 Ohm / 30 mH	70 Ohm / 70 mH
FM Coil				
Sensitivity, Typ.	310 kHz/ma	310 kHz/ma	310 kHz/ma	310 kHz/ma
3 dB Bandwidth, Typ.	400 kHz	400 kHz	400 kHz	400 kHz
Deviation @ 400 kHz Rate, Min.	+/- 50 MHz	+/- 50 MHz	+/- 50 MHz	+/- 50 MHz
Input Impedance @ 1 MHz, Typ.	1.0 Ohm / 2.0 uH	1.0 Ohm / 2.0 uH	1.0 Ohm / 2.0 uH	1.0 Ohm / 2.0 uH
DC Circuit Power, +12 Vdc +/- 5%	100 mA	100 mA	100 mA	100 mA
-5 Vdc +/- 5%	20 mA	20 mA	20 mA	20 mA
YIG Heater Power				
Input Voltage Range	+15 Vdc	+15 Vdc	+15 Vdc	+15 Vdc
Current Surge/Steady State, Max.	250 mA / 50 mA	250 mA / 50 mA	250 mA / 50 mA	250 mA / 50 mA
Case Style	61-052-4	61-052-4	61-052-4	61-052-4

.180 DIA x.50 DP
.100 DIA. THRU
(4 PL)



LABEL



REV	DESCRIPTION	DATE	APPROVED

WEIGHT: 2 Oz.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		CONTRACT NO.	
FRACTIONS	DIMENALS	APPROVALS	DATE
1/16	±.010	DRUM N. NGUYEN	1/21/89
1/32	±.008	Approved: <i>[Signature]</i>	1/21/89
MATERIAL		SIZE	DWG. NO.
FINISH		ORNG3	61-052-4
DO NOT SCALE DRAWING		SCALE	REV.
			SECRET

MICRO LAMBDA, INC.

1.25" P.M. OSCILLATOR