



**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** ( $\pm 2$  GHz). These oscillators have been specifically designed with the latest permanent magnet technology to yield excellent performance over temperature and environmental conditions. All units operate from a single +12 Volt supply and over the -20<sup>o</sup> to + 70<sup>o</sup>C temperature range. 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<sup>o</sup> to +70<sup>o</sup> C Case Temperature

<b>Model No.</b>	<b>MLPW-0812</b>	<b>MLPW-1014</b>	<b>MLPW-1418</b>	<b>MLPW-1822</b>
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	-90 dBc/Hz	-90 dBc/Hz	-85 dBc/Hz	-80 dBc/Hz
@ 100kHz Offset	-110 dBc/Hz	-110 dBc/Hz	-105 dBc/Hz	-100 dBc/Hz
<b>Main Coil</b>				
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
<b>FM Coil</b>				
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, Max.+12 Vdc +/- 5%	100 mA	100 mA	100 mA	100 mA
<b>YIG Heater Power</b>				
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	61-052-1	61-052-1	61-052-1	61-052-1

