

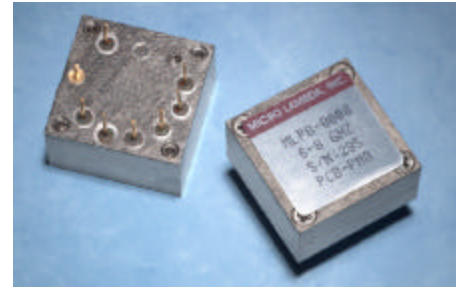


# MICRO LAMBDA WIRELESS, INC.

## MLPB SERIES PERMANENT MAGNET YTO's PC BOARD MOUNT

### FEATURES

- 2-8 GHz Frequency Coverage
- FM/Phase-Lock Port
- Miniature Size
- High Reliability
- PC Board Mount Compatible



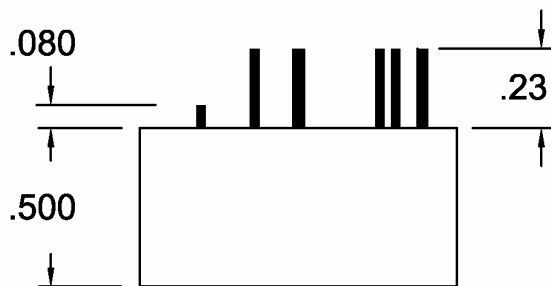
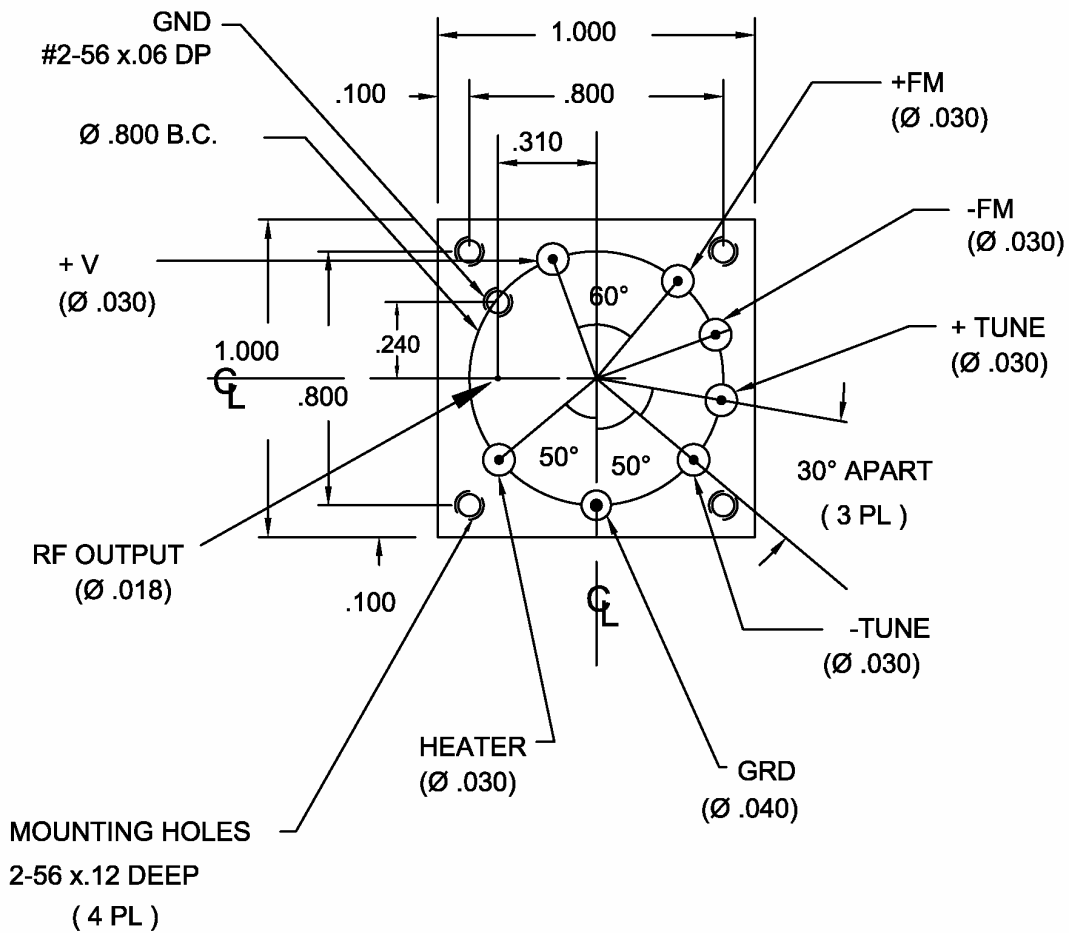
### DESCRIPTION

The MICRO LAMBDA MLPB-Series Miniature Permanent Magnet YIG-Tuned oscillators are signal sources covering the frequency range of 2-8 GHz. These oscillators have been designed specifically for commercial applications where small size at low cost is the primary consideration. The oscillator utilizes a bipolar transistor coupled to a YIG sphere in a thin-film oscillator circuit. YIG heaters with low surge currents are used to maintain temperature stability. These oscillators have been designed specifically for mounting to industry standard PC board mediums. Standard size is 1 " x 1 " x .5" and weigh one ounce.

### ELECTRICAL AND PERFORMANCE SPECIFICATIONS

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

Model No.	MLPB-0204	MLPB-0305	MLPB-0406	MLPB-0507	MLPB-0608
Frequency Range, Min.	2-4 GHz	3-5 GHz	4-6 GHz	5-7 GHz	6-8 GHz
Free Run Frequency (w/o Main Coil)	3 GHz	4 GHz	5 GHz	6 GHz	7 GHz
Power Output, Min.	+15 dBm	+14 dBm	+14 dBm	+14 dBm	+14 dBm
Power Output Variation, Max.	+/- 1 dB	+/- 1 dB	+/- 1 dB	+/- 1 dB	+/- 1 dB
Frequency Drift over Temperature, Max.	20 MHz	20 MHz	20 MHz	20 MHz	20 MHz
Pulling Figure (12 dB RL), Typ.	1 MHz	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	0.1 MHz/V
2nd Harmonic, Min.	-12 dBc	-12 dBc	-12 dBc	-12 dBc	-12 dBc
3rd Harmonic, Min.	-20 dBc	-20 dBc	-20 dBc	-20 dBc	-20 dBc
Spurious Output, Min.	-70 dBc	-70 dBc	-70 dBc	-70 dBc	-70 dBc
Phase Noise @ 10kHz Offset	-103 dBc/Hz	-102 dBc/Hz	-100 dBc/Hz	-100 dBc/Hz	-98 dBc/Hz
@ 100kHz Offset	-125 dBc/Hz	-124 dBc/Hz	-123 dBc/Hz	-123 dBc/Hz	-120 dBc/Hz
<b>Main Coil</b>					
Sensitivity, Typ.	9 MHz/mA	9 MHz/mA	9 MHz/mA	9 MHz/mA	9 MHz/mA
Linearity, Typ.	1 MHz	1 MHz	1 MHz	1 MHz	1 MHz
Hysteresis, Typ.	1 MHz	1 MHz	1 MHz	1 MHz	1 MHz
Input Impedance @ 1 kHz, Typ.	70 Ohm / 15 mH	70 Ohm / 15 mH	70 Ohm / 15 mH	70 Ohm / 15 mH	70 Ohm / 15 mH
<b>FM Coil</b>					
Sensitivity, Typ.	310 kHz/ma	310 kHz/ma	310 kHz/ma	310 kHz/ma	310 kHz/ma
3 dB Bandwidth, Typ.	400 kHz	400 kHz	400 kHz	400 kHz	400 kHz
Deviation @ 400 kHz Rate, Min.	+/- 50 MHz	+/- 50 MHz	+/- 50 MHz	+/- 50 MHz	+/- 50 MHz
Input Impedance @ 1 MHz, Typ.	1.0 Ohm / 2.0uH	1.0 Ohm / 2.0uH	1.0 Ohm / 2.0uH	1.0 Ohm / 2.0uH	1.0 Ohm / 2.0uH
DC Circuit Power, Max.+12 Vdc +/- 5%	100 mA	100 mA	100 mA	100 mA	100 mA
<b>YIG Heater Power</b>					
Input Voltage Range	+15 Vdc	+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	250 mA / 50 mA
Case Style	61-053	61-053	61-053	61-053	61-053



**WEIGHT: 1 Oz.**

UNLESS OTHERWISE SPECIFIED DIMENSIONS  
ARE IN INCHES  
TOLERANCE ARE:  
FRACTIONS DECIMALS ANGLES  
± .010 ± .01 ± 15  
± .005 ± .005 ± 10

CONTRACT NO.



**MICRO LAMBDA, INC.**

MATERIAL  
CARPENTER 49

APPROVALS	DATE
DRAWN N. NGUYEN	10/10/01
CHECKED	

**PCB MOUNTABLE PMO**

FINISH

ISSUED	
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SIZE

CAGE No  
**0RN63**

DWG. NO.

**61 - 053**

REV.  
**E**

DO NOT SCALE DRAWING