

FEATURES

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

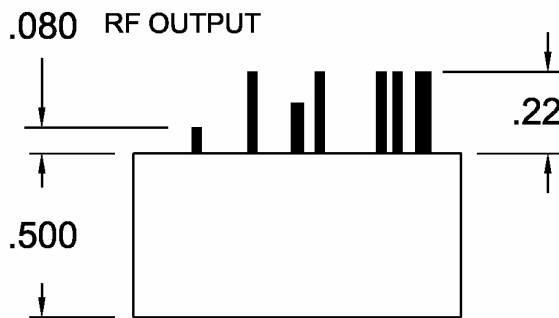
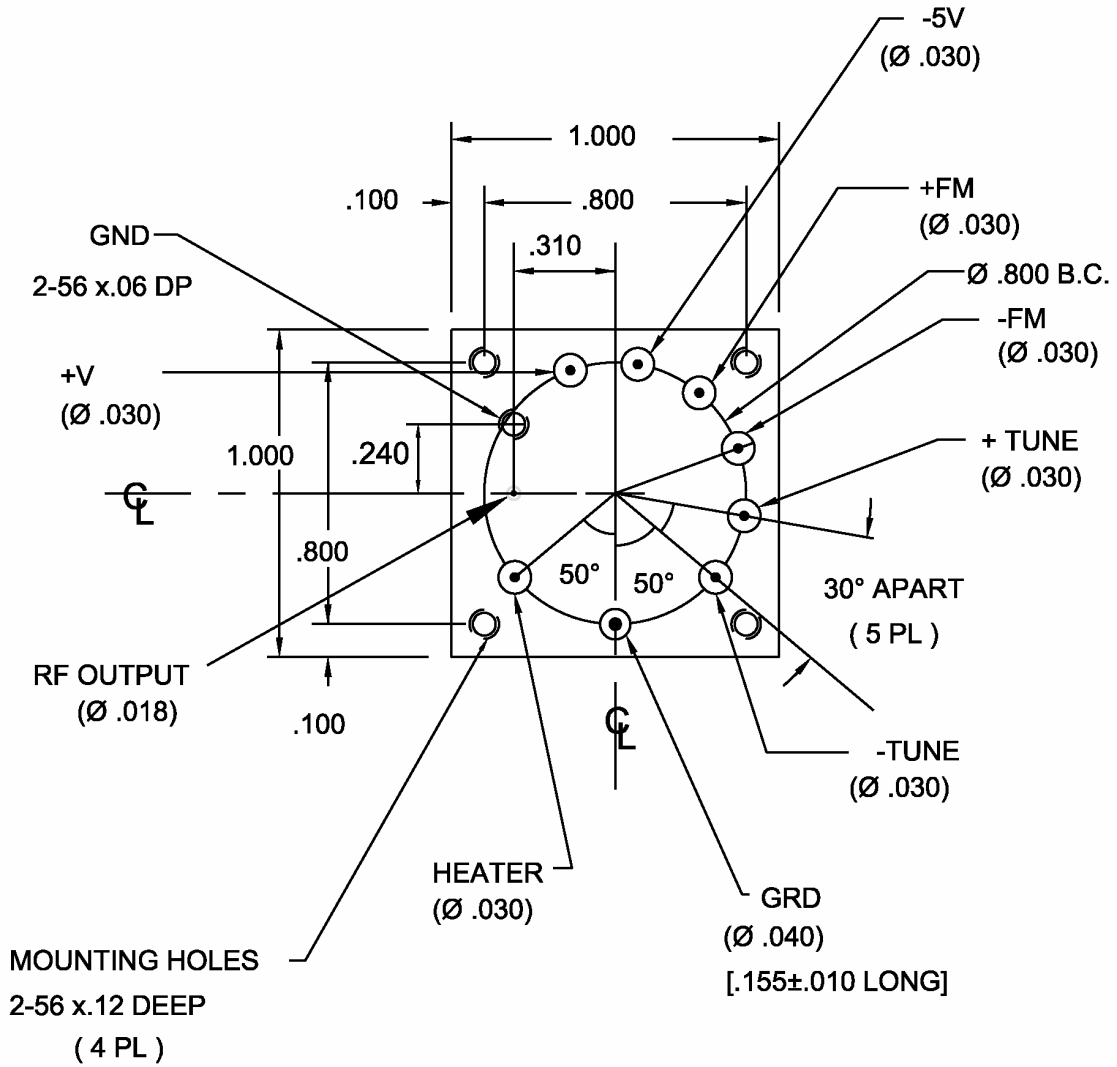

DESCRIPTION

The MICRO LAMBDA MLMB-Series Miniature 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. Standard output power levels of +13 to +15 dBm over the specified frequency band including the temperature range of 0° to +65°C is provided. 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 -0° to +65° C Case Temperature

Model No.	MLMB-0204	MLMB-0306	MLMB-0408	MLMB-0208
Frequency Range, Min.	2-4 GHz	3-6 GHz	4-8 GHz	2-8 GHz
Power Output, Min.	+15 dBm	+15 dBm	+14 dBm	+13 dBm
Power Output Variation, Max.	+/- 2 dB	+/- 2 dB	+/- 2 dB	+/- 2 dB
Frequency Drift over Temperature, Max.	10 MHz	10 MHz	10 MHz	15 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
-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	-103 dBc/Hz	-100 dBc/Hz	-98 dBc/Hz	-98 dBc/Hz
@ 100kHz Offset	-125 dBc/Hz	-123 dBc/Hz	-120 dBc/Hz	-120 dBc/Hz
Main Coil				
Sensitivity, Typ.	20 MHz/mA	20 MHz/mA	20 MHz/mA	20 MHz/mA
3 dB Bandwidth, Typ.	5 kHz	5 kHz	5 kHz	5 kHz
Linearity, Typ.	+/- 0.1 %	+/- 0.1 %	+/- 0.1 %	+/- 0.1 %
Hysteresis, Typ.	3 MHz	3 MHz	5 MHz	5 MHz
Input Impedance @ 1 kHz, Typ.	23 Ohm / 20 mH	17 Ohm / 17 mH	17 Ohm / 17 mH	17 Ohm / 17 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 / 2.0uH	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
-5 Vdc +/- 5%	50 mA	50 mA	50 mA	50 mA
YIG Heater Power				
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	81-049	81-049	81-049	81-049



WEIGHT: 1 Oz.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCE ARE:
FRACTIONS DECIMALS ANGLES
.xxx #.010
.xxx #.005

MATERIAL
CARPENTER 49

FINISH

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS DATE

DRAWN N.NGUYEN 7/29/04

CHECKED

ISSUED



MICRO LAMBDA WIRELESS, INC.

PCB MOUNTABLE MINI OSCILLATOR

SIZE

CAGE No

DWG. NO.

REV.

0RN63

81 - 049

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