

FEATURES

- 2-8 GHz Frequency Coverage
- FM/Phase-Lock Port
- Miniature Size
- High Reliability
- Reduced Cost



DESCRIPTION

The MICRO LAMBDA MLMY-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 +15 dBm over the specified frequency band including the temperature range of 0° to +65°C is provided. These oscillators are available in standard 1 " x 1 " x .5" configuration and have field replaceable SMA connectors.

ELECTRICAL AND PERFORMANCE SPECIFICATIONS

Guaranteed Specifications at -0° to +65° C Case Temperature

Model No.	MLMY-0702	MLMY-0204	MLMY-0408	MLMY-0208
Frequency Range, Min.	.7-2 GHz	2-4 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.	N/A	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.	-8 dBc	-12 dBc	-12 dBc	-12 dBc
3rd Harmonic, Min.	-12 dBc	-20 dBc	-20 dBc	-20 dBc
Spurious Output, Min.	-60 dBc	-70 dBc	-70 dBc	-70 dBc
Phase Noise @ 10kHz Offset	-80 dBc/Hz	-98 dBc/Hz	-98 dBc/Hz	-98 dBc/Hz
@ 100kHz Offset	-105 dBc/Hz	-120 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	3 MHz	5 MHz
Input Impedance @ 1 kHz, Typ.	35 Ohm / 17 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%	N/A	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	81-041-2	81-041-1	81-041-1	81-041-1



REV	DESCRIPTION	DATE	APPROVED

QUANTITY OF MATERIALS REQUIRED (FOR EACH LOT OF MATERIAL) (FOR EACH LOT) (FOR EACH LOT) (FOR EACH LOT) (FOR EACH LOT) (FOR EACH LOT)	(FOR EACH LOT)	 MICRO LAMBDA, INC. MINIATURE OSCILLATOR (+V ONLY)
	APPROVED DATE BY DATE	
MATERIAL PART NO. QTY. DATE	ORNG63 81-041-2	DATE QTY. DATE