

**FEATURES**

- .7-20 GHz Frequency Coverage
- FM/Phase-Lock Port
- Excellent Phase Noise
- Superb Linearity
- High Reliability


**DESCRIPTION**

MICRO LAMBDA MLOS-Series 1.75" cylinder YIG Tuned Oscillators cover octave and multi-octave bands from .7 to 20 GHz for both the commercial and defence applications. Utilizing Thin Film Technology for reliability and cost effectiveness, our standard oscillators are specified to operate from 0 to 65°C. However, all of MICRO LAMBDA oscillators can be furnished to military specifications and an operating temperature range of -54°C to +85°C. With proprietary designs on magnetic circuitry, oscillator circuitry and on coupling techniques, MICRO LAMBDA oscillator products offer excellent Tuning Linearity and Extended Tuning Bandwidth. Oscillators can be furnished with integrated or remote analog or digital drivers.

**ELECTRICAL AND PERFORMANCE SPECIFICATIONS**

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

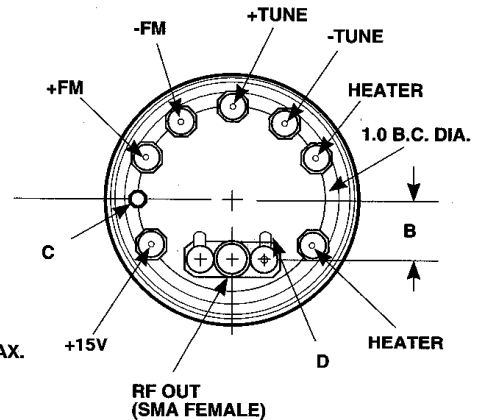
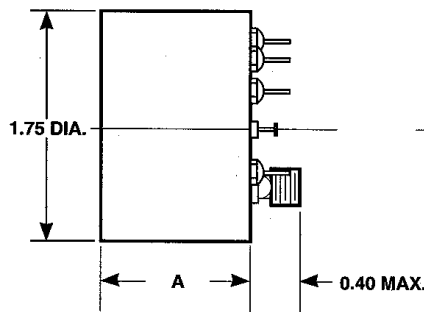
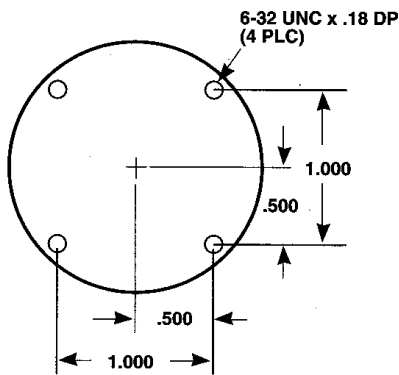
Model No.	MLOS-0702	MLOS-0704	MLOS-0208	MLOS-0310
Frequency Range, Min.	.7-2 GHz	.7-4 GHz	2-8 GHz	3.5-10.5 GHz
Power Output, Min.	+14 dBm	+14 dBm	+14 dBm	+14 dBm
Power Output Variation, Max.	+/- 2 dB	+/- 3 dB	+/- 3 dB	+/- 3 dB
Frequency Drift over Temperature, Max.	10 MHz	10 MHz	15 MHz	15 MHz
Pulling Figure (12 dB RL), Typ.	1 MHz	1 MHz	1 MHz	1 MHz
Pushing Figure +15 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
Magnetic Susceptibility @ 60 Hz, Typ.	50 kHz/gauss	50 kHz/gauss	50 kHz/gauss	50 kHz/gauss
2nd Harmonic, Min.	-8 dBc	-8 dBc	-12 dBc	-12 dBc
3rd Harmonic, Min.	-12 dBc	-12 dBc	-15 dBc	-15 dBc
Spurious Output, Min.	-70 dBc	-70 dBc	-70 dBc	-70 dBc
<b>Main Coil</b>				
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 %	+/- 0.15 %
Hysteresis, Typ.	2 MHz	3 MHz	8 MHz	8 MHz
Input Impedance @ 1 kHz, Typ.	10 Ohm / 95 mH	10 Ohm / 95 mH	10 Ohm / 95 mH	10 Ohm / 95 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.	15 MHz	20 MHz	40 MHz	40 MHz
Input Impedance @ 1 MHz, Typ.	1.0 Ohm / 10uH	1.0 Ohm / 10uH	1.0 Ohm / 10uH	1.0 Ohm / 10uH
DC Circuit Power, Max.+15 Vdc +/- 5%	100 mA	100 mA	100 mA	100 mA
-5 Vdc +/- 5%	-	-	-	50 mA
<b>YIG Heater Power</b>				
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	11-001	11-001	11-001	11-019

# ELECTRICAL AND PERFORMANCE SPECIFICATIONS

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

Model No.	MLOS-0412	MLOS-0716	MLOS-0618	MLOS-0820
Frequency Range, Min.	4-12.4 GHz	7-16 GHz	6-18 GHz	8-20 GHz
Power Output, Min.	+14 dBm	+13 dBm	+13 dBm	+13 dBm
Power Output Variation, Max.	+/- 3 dB	+/- 3 dB	+/- 3 dB	+/- 3 dB
Frequency Drift over Temperature, Max.	15 MHz	20 MHz	30 MHz	20 MHz
Pulling Figure (12 dB RL), Typ.	1 MHz	1 MHz	1 MHz	1 MHz
Pushing Figure +15 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	-
Magnetic Susceptibility @ 60 Hz, Typ.	50 kHz/gauss	50 kHz/gauss	50 kHz/gauss	50 kHz/gauss
2nd Harmonic, Min.	-12 dBc	-12 dBc	-12 dBc	-12 dBc
3rd Harmonic, Min.	-15 dBc	-20 dBc	-20 dBc	-20 dBc
Spurious Output, Min.	-70 dBc	-70 dBc	-70 dBc	-70 dBc
<b>Main Coil</b>				
Sensitivity, Typ.	20 MHz/mA	18 MHz/mA	18 MHz/mA	18 MHz/mA
3 dB Bandwidth, Typ.	5 kHz	5 kHz	5 kHz	5 kHz
Linearity, Typ.	+/- 0.15 %	+/- 0.1 %	+/- 0.15 %	+/- 0.15 %
Hysteresis, Typ.	8 MHz	10 MHz	12 MHz	15 MHz
Input Impedance @ 1 kHz, Typ.	10 Ohm / 95 mH	10 Ohm / 95 mH	10 Ohm / 95 mH	10 Ohm / 95 mH
<b>FM Coil</b>				
Sensitivity, Typ.	310 kHz/ma	410 kHz/ma	410 kHz/ma	410 kHz/ma
3 dB Bandwidth, Typ.	400 kHz	400 kHz	400 kHz	400 kHz
Deviation @ 400 kHz Rate, Min.	15 MHz	40 MHz	40 MHz	40 MHz
Input Impedance @ 1 MHz, Typ.	1.0 Ohm / 10uH	1.0 Ohm / 10uH	1.0 Ohm / 10uH	1.0 Ohm / 10uH
<b>DC Circuit Power, Max. +15 Vdc +/- 5%</b>				
-5 Vdc +/- 5%	100 mA	100 mA	100 mA	100 mA
<b>YIG Heater Power</b>				
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	11-019	11-002	11-020	11-002

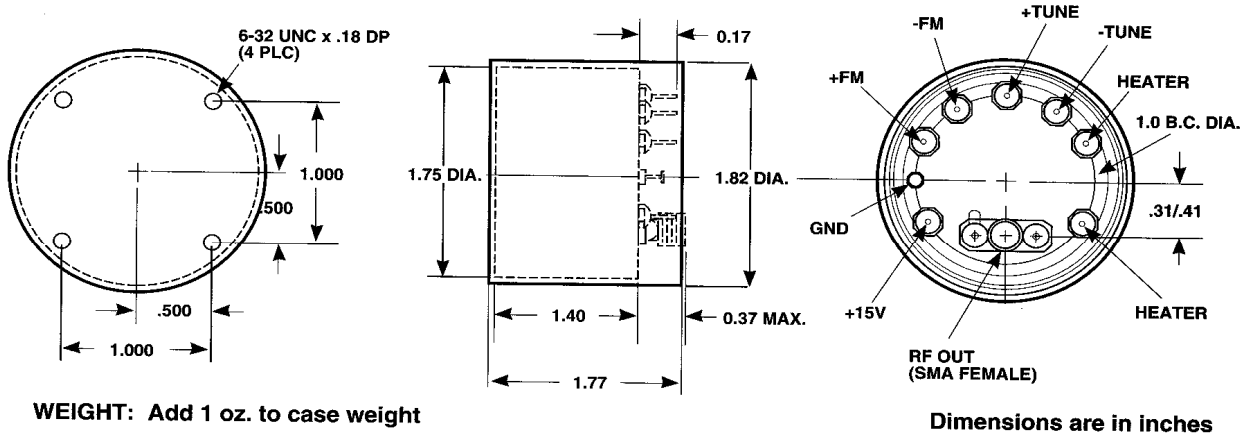
## Outline Drawing: 11-001, 002, 019 & 020



Dimensions are in inches

Case	A	B	C	D	Weight
001	1.17	.31	GND	N/A	11 oz.
002	1.40	.41	GND	N/A	14 oz.
019	1.17	.31	-5 V	GND	11 oz.
020	1.40	.41	-5 V	GND	14 oz.

Outline Drawing: 11-029 With Mu Metal Shield (Option S)



Outline Drawing: 11-006 With Mu Metal Shield And Clamp (Option A)

