

## FEATURES

- 2-20 GHz Coverage
- Excellent Phase Noise
  - 123 dBc/Hz Minimum At 100 kHz Offset
  - 128 dBc/Hz Typical At 100 kHz Offset
- FM/Phase Lock Port
- Excellent Linearity
- High Reliability



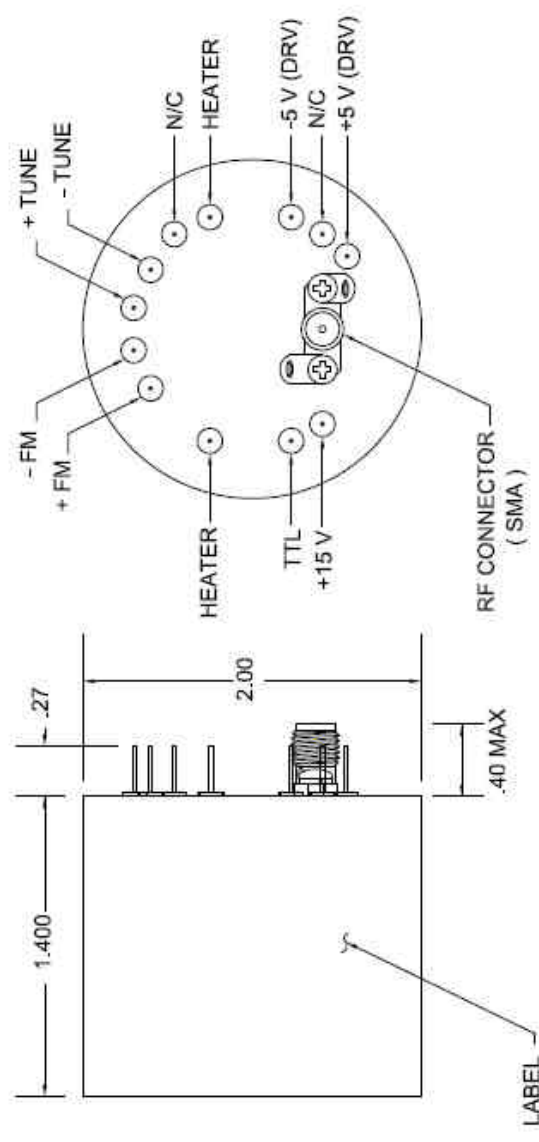
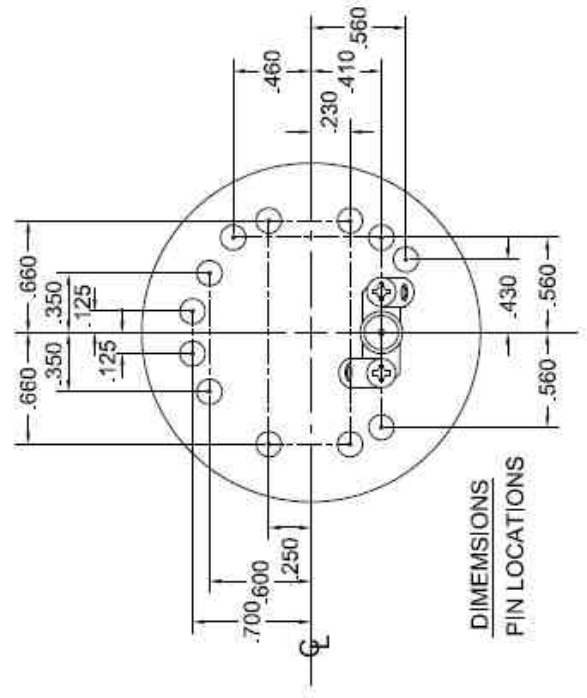
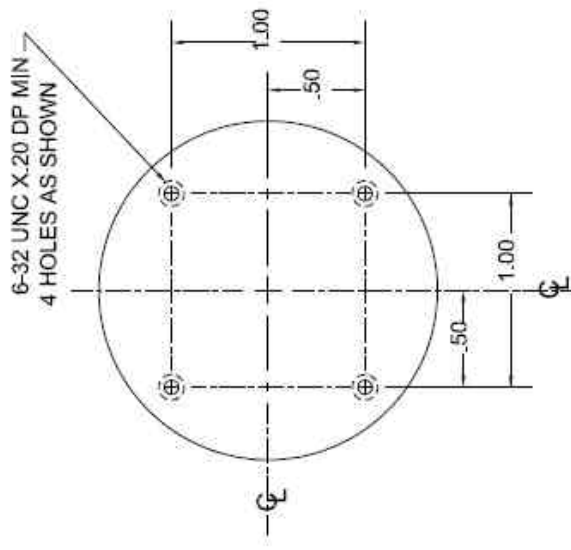
## DESCRIPTION

The MICRO LAMBDA broadband switched YIG Tuned Oscillators are signal sources covering the Frequency range of 2 to 20 GHz. These oscillators are two YIG circuits assembled under a single magnetic structure. The circuits share a single MMIC amplifier to guarantee +14 dBm over 2-18 GHz and +13 dBm over 2-20 GHz. A MMIC switch is used to switch between bands, the switch point occurring at 8 GHz with a 200 MHz overlap. A TTL signal is required to switch the low band or high band into operation. Standard units incorporate an internal driver (option T) to turn off the unused band, conserving power consumption and elimination of unwanted leakage. Guaranteed noise performance is -123 dBc/Hz at 100 kHz offset over the 2-20 GHz band. These broadband switched Oscillators are designed for applications where multi-octave bandwidth coverage is required or where dual YIG designs are currently being used.

## ELECTRICAL AND PERFORMANCE SPECIFICATIONS


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

Model No.	MLXS-0218T	MLXS-0220T
Frequency Range, Min.	2-18 GHz	2-20 GHz
Power Output, Min.	+14 dBm	+13 dBm
Power Output Variation, Max.	+/- 3 dB	+/- 3 dB
Frequency Drift over Temperature, Max.	20 MHz	25 MHz
Pulling Figure (12 dB RL), Typ.	1 MHz	1 MHz
Pushing Figure +15 Vdc Supply, Typ.	0.1 MHz/V	0.1 MHz/V
-5 Vdc Supply, Typ.	1 MHz/V	1 MHz/V
Magnetic Susceptibility @ 60 Hz, Typ.	60 kHz/gauss	60 kHz/gauss
2nd Harmonic, Min.	-12 dBc	-12 dBc
3rd Harmonic, Min.	-15 dBc	-15 dBc
Spurious Output, Min.	-70 dBc	-70 dBc
Phase Noise 10kHz Offset Min.	-103 dBc/Hz	-103 dBc/Hz
10 kHz Offset Typ.	-108 dBc/Hz	-108 dBc/Hz
100 kHz Offset Min.	-123 dBc/Hz	-123 dBc/Hz
100 kHz Offset Typ.	-128 dBc/Hz	-128 dBc/Hz
Band Switching Accuracy, Max.	8 MHz	10 MHz
Band Switching, TTL=0/TTL=1	8-18/2-8 GHz	8-20/2-8 GHz
Main Coil		
Sensitivity, Typ.	20 MHz/mA	20 MHz/mA
3 dB Bandwidth, Typ.	5 kHz	5 kHz
Linearity, Typ.	+/- 0.2 %	+/- 0.2 %
Hysteresis, Typ.	14 MHz	16 MHz
Input Impedance @ 1 kHz, Typ.	6 Ohm /75 mH	6 Ohm /75 mH
FM Coil		
Sensitivity, Typ.	310 kHz/ma	310 kHz/ma
3 dB Bandwidth, Typ.	400 kHz	400 kHz
Deviation @ 400 kHz Rate, Min.	20 MHz	20 MHz
Input Impedance @ 1 MHz, Typ.	1.0 Ohm / 2uH	1.0 Ohm / 2uH
DC Circuit Power, Max. +12 Vdc to +15 Vdc +/- 5%	250 mA	250 mA
-5 Vdc +/- 5%	60 mA	60 mA
+5 Vdc +/- 5%	35 mA	35 mA
YIG Heater Power		
Input Voltage Range	+24 +/- 4 Vdc	+24 +/- 4 Vdc
Current Surge/Steady State, Max.	300 mA / 50 mA	300 mA / 50 mA
Case Style	11-149	11-149



WEIGHT : 16 Oz. MAX

REV	DESCRIPTION	DATE	APPROVED

		<b>MICRO LAMBDA WIRELESS, INC.</b>	
CONTRACT NO.		MLXS-SERIES/DUAL OSC.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE ARE : FRACTIONS: DECIMALS ANGLES .XX ±.02 .XXX ±.010		APPROVALS DRAWN N. NGUYEN CHECKED ISSUED	DATE 4/9/08
MATERIAL CARPENTER 49	FINISH	CAGE 0RN63	DWG. NO. 11-149
DO NOT SCALE DRAWING		SCALE	SHEET