

FEATURES

- 2-26.5 GHz Coverage
- Excellent Phase Noise
- 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 26.5 GHz. These oscillators are two YIG circuits assembled under a single magnetic structure. The circuits share a single MMIC amplifier to guarantee +13 dBm over 2-18 GHz, +12 dBm over 2-20 GHz and +8 dBm over 2-26.5 GHz. A MMIC switch is used to switch between bands, the switch point occurring at either 8 or 12 GHz with a 400 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 -103 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.	MLOS-0218T	MLOS-0220T	MLOS-0226T
Frequency Range, Min.	2-18 GHz	2-20 GHz	2-26.5 GHz
Power Output, Min.	+13 dBm	+12 dBm	+8 dBm (2-25 GHz) +4 dBm (25-26.5 GHz)
Power Output Variation, Max.	+/- 3 dB	+/- 3 dB	+/- 4 dB
Frequency Drift over Temperature, Max.	20 MHz	25 MHz	30 MHz
Pulling Figure (12 dB RL), Typ.	1 MHz	1 MHz	1 MHz
Pushing Figure +15 Vdc Supply, Typ.	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
Magnetic Susceptibility @ 60 Hz, Typ.	60 kHz/gauss	60 kHz/gauss	60 kHz/gauss
2nd Harmonic, Min.	-10 dBc	-10 dBc	-10 dBc
3rd Harmonic, Min.	-12 dBc	-12 dBc	-12 dBc
Spurious Output, Min.	-60 dBc	-60 dBc	-60 dBc
Phase Noise @ 2-8 GHz 100kHz Offset	-113 dBc/Hz	-113 dBc/Hz	-
@ 8-18 GHz 100kHz Offset	-105 dBc/Hz	-	-
@ 8-20 GHz 100 kHz Offset	-	-103 dBc/Hz	-
@ 2-12 GHz 100 kHz Offset	-	-	-110 dBc/Hz
@ 12-26.5 GHz 100 kHz Offset	-	-	-97 dBc/Hz
Band Switching Accuracy, Max.	8 Mhz	10 MHz	10 Mhz
Band Switching, TTL=0/TTL=1	8-18/2-8 GHz	8-20/2-8 GHz	12-26.5/2-12 GHz
Main Coil			
Sensitivity, Typ.	20 MHz/mA	20 MHz/mA	20 MHz/mA
3 dB Bandwidth, Typ.	5 kHz	5 kHz	5 kHz
Linearity, Typ.	+/- 0.2 %	+/- 0.2 %	+/- 0.2 %
Hysteresis, Typ.	15 MHz	15 MHz	15 MHz
Input Impedance @ 1 kHz, Typ.	6 Ohm /75 mH	6 Ohm /75 mH	6 Ohm /75 mH
FM Coil			
Sensitivity, Typ.	310 kHz/ma	310 kHz/ma	310 kHz/ma
3 dB Bandwidth, Typ.	400 kHz	400 kHz	400 kHz
Deviation @ 400 kHz Rate, Min.	20 MHz	20 MHz	20 MHz
Input Impedance @ 1 MHz, Typ.	1.0 Ohm / 2uH	1.0 Ohm / 2uH	1.0 Ohm / 2uH
DC Circuit Power, Max.+15 Vdc +/- 5%	250 mA	250 mA	250 mA
-5 Vdc +/- 5 Vdc	60 mA	60 mA	60 mA
YIG Heater Power			
Input Voltage Range	+24 +/- 4 Vdc	+24 +/- 4 Vdc	+24 +/- 4 Vdc
Current Surge/Steady State, Max.	300 mA / 50 mA	300 mA / 50 mA	300 mA / 50 mA
Case Style	11-031-1	11-031-1	11-031-1

