



# MICRO LAMBDA WIRELESS, INC.

## MLXM-EXTREME SERIES LOW NOISE - 1" CUBE YIG TUNED OSCILLATORS

### FEATURES

- 6-18 GHz Frequency Coverage
- **Revolutionary Phase Noise**
- FM/Phase-Lock Port
- Superb Linearity
- High Reliability

### DESCRIPTION

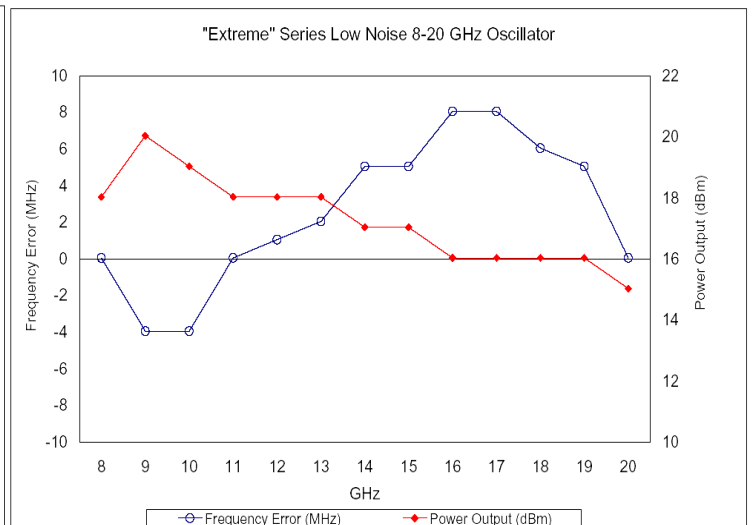
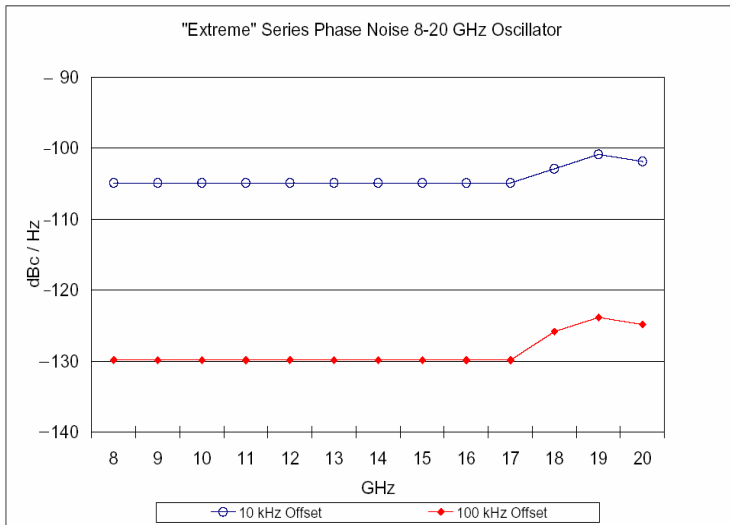
MICRO LAMBDA **MLXM-Extreme Series** 1" cube YIG Tuned Oscillators cover multi-octave bands from 6 to 18 GHz for commercial applications. Utilizing Thin Film Technology for reliability and cost effectiveness, the standard "Extreme" series oscillators are specified to operate from 0 to 65°C and provide unparalleled phase noise performance. Units provide -100 dBc/Hz @ 10 kHz offset and -123 dBc/Hz @ 100 kHz offset guaranteed performance! Typical performance is -128 dBc/Hz @ 100 kHz offset. These oscillators are ideal for synthesizers, receivers and specialized test equipment. Oscillators can be furnished with integrated or remote analog, digital TTL or serial drivers.



### ELECTRICAL AND PERFORMANCE SPECIFICATIONS

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

| Model No.                                   | MLXM-0818         | MLXM-0618         |
|---------------------------------------------|-------------------|-------------------|
| Frequency Range, Min.                       | 8-18 GHz          | 6-18 GHz          |
| Power Output, Min.                          | +15 dBm           | +14 dBm           |
| Power Output Variation, Max.                | 5 dB              | 6 dB              |
| Frequency Drift over Temperature, Max.      | 20 MHz            | 20 MHz            |
| Pulling Figure (12 dB RL), Typ.             | 1 MHz             | 1 MHz             |
| Pushing Figure +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.       | 50 kHz/gauss      | 50 kHz/gauss      |
| Harmonics, Min.                             | -12 dBc           | -12 dBc           |
| Spurious Output, Min.                       | -60 dBc           | -60 dBc           |
| Phase Noise @ 100 kHz Offset Min.           | -125 dBc/Hz       | -123 dBc/Hz       |
| @ 100 kHz Offset Typ.                       | -130 dBc/Hz       | -128 dBc/Hz       |
| Main Coil                                   |                   |                   |
| Sensitivity, Typ.                           | 18 MHz/mA         | 18 MHz/mA         |
| 3 dB Bandwidth, Typ.                        | 5 kHz             | 5 kHz             |
| Linearity, Typ.                             | ± 6 MHz           | ± 8 MHz           |
| Hysteresis, Typ.                            | 10 MHz            | 12 MHz            |
| Input Impedance @ 1 kHz, Typ.               | 11 Ohm / 35 mH    | 11 Ohm / 35 mH    |
| FM Coil                                     |                   |                   |
| Sensitivity, Typ.                           | 410 kHz/ma        | 410 kHz/ma        |
| 3 dB Bandwidth, Typ.                        | 2 MHz             | 2 MHz             |
| Deviation @ 400 kHz Rate, Min.              | 40 MHz            | 40 MHz            |
| Input Impedance @ 1 MHz, Typ.               | 1.0 Ohm / 10uH    | 1.0 Ohm / 10uH    |
| DC Circuit Power +8 Vdc Min., + 15 Vdc Max. | 225 mA            | 225 mA            |
| -5 Vdc +/- 5%                               | 20 mA             | 20 mA             |
| YIG Heater Power                            |                   |                   |
| Input Voltage Range                         | +12 Vdc / +28 Vdc | +12 Vdc / +28 Vdc |
| Current Surge                               | 150 mA / 250 mA   | 150 mA / 250 mA   |
| Steady State, Max.                          | 60 mA / 25 mA     | 60 mA / 25 mA     |
| Case Style                                  | 11-012-2          | 11-012-2          |



## Outline Drawing 11-012-2

