**FEATURES**
- 18-40 GHz Coverage
- K-Style RF Output
- FM/Phase Lock Port
- High Reliability

**DESCRIPTION**
MICRO LAMBDA WIRELESS Millimeter Wave oscillators are fundamental GaAs FET YIG-Tuned signal sources which provide +13 dBm minimum output power over the 18-40 GHz frequency band. These oscillators are biased from a single +15 volt source and require 200 mA max to operate. The units come with an FM tuning coil which may be used to frequency modulate, phase lock or fine tune the output signal. These oscillators are ideal for use in spectrum analyzers, sweep generators, receivers and synthesizers.

**ELECTRICAL AND PERFORMANCE SPECIFICATIONS**
Guaranteed Specifications at 0º to +65º C Case Temperature

<table>
<thead>
<tr>
<th>Model No.</th>
<th>MLOS-1840</th>
<th>MLOS-2040</th>
<th>MLOS-2640</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range, Min.</td>
<td>18-40 GHz</td>
<td>20-40 GHz</td>
<td>26.5-40 GHz</td>
</tr>
<tr>
<td>Power Output, Min.</td>
<td>+13 dBm</td>
<td>+13 dBm</td>
<td>+13 dBm</td>
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<tr>
<td>Power Output Variation, Max.</td>
<td>+/- 3 dB</td>
<td>+/- 3 dB</td>
<td>+/- 3 dB</td>
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<tr>
<td>Frequency Drift over Temperature, Max.</td>
<td>30 MHz</td>
<td>30 MHz</td>
<td>30 MHz</td>
</tr>
<tr>
<td>Pulling Figure (12 dB RL), Typ.</td>
<td>0.5 MHz</td>
<td>0.5 MHz</td>
<td>0.5 MHz</td>
</tr>
<tr>
<td>Pushing Figure +15 Vdc Supply, Typ.</td>
<td>0.1 MHz/V</td>
<td>0.1 MHz/V</td>
<td>0.1 MHz/V</td>
</tr>
<tr>
<td>Magnetic Susceptability @ 60 Hz, Typ.</td>
<td>50 kHz/ gauss</td>
<td>50 kHz/ gauss</td>
<td>50 kHz/ gauss</td>
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<tr>
<td>2nd Harmonic, Min.</td>
<td>-12 dBc</td>
<td>-12 dBc</td>
<td>-12 dBc</td>
</tr>
<tr>
<td>Spurious Output, Min.</td>
<td>-60 dBc</td>
<td>-60 dBc</td>
<td>-60 dBc</td>
</tr>
<tr>
<td>Phase Noise @ 100 kHz Offset</td>
<td>-95 dBc/Hz</td>
<td>-95 dBc/Hz</td>
<td>-95 dBc/Hz</td>
</tr>
</tbody>
</table>

**Main Coil**
- Sensitivity, +/- 2 MHz | 40 MHz/mA | 40 MHz/mA | 40 MHz/mA |
- 3 dB Bandwidth, Typ. | 5 kHz | 5 kHz | 5 kHz |
- Linearity, Typ. | +/- 0.1 % | +/- 0.1 % | +/- 0.1 % |
- Hysteresis, Typ. | 40 MHz | 35 MHz | 30 MHz |
- Input Impedance @ 1 kHz, Typ. | 6 Ohm /150 mH | 6 Ohm /150 mH | 6 Ohm /150 mH |

**FM Coil**
- Sensitivity, Typ. | 425 kHz/mA | 425 kHz/mA | 425 kHz/mA |
- 3 dB Bandwidth, Typ. | 400 kHz | 400 kHz | 400 kHz |
- Deviation @ 400 kHz Rate, Min. | +/- 100 MHz | +/- 100 MHz | +/- 100 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% | 200 mA | 200 mA | 200 mA |

**YIG Heater Power**
- Input Voltage Range | +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 |
- Case Style | 11-111 | 11-111 | 11-111 |
WEIGHT: 17 Oz. MAX

6-32 UNC X 20 DP MIN
4 HOLES AS SHOWN

MOUNTING SURFACE
1.00
.50
.50
1.00

1.55

20

.30 MAX

OUTPUT
(K-female)

+15 V

TUNE

FM

TUNE

FM

GRD

.32

.32

MICRO LAMBDA WIRELESS, INC.

2 INCH OSC. (MILLIMETER WAVE)

CARPENTER 49

DRAWN: N. NGUYEN
DATE: 3/8/02

CHECKED

ISSUED

DO NOT SCALE DRAWING

REV.

DESCRIPTION

DATE

APPROVED