

### **FEATURES**

- All Miniature Oscillators and Filters
- MLMY Series "Mini" Oscillators
- MLFI Series "Mini" Filters
- Compensation for Temperature Drift
- Voltage Regulators for Improved Stability
- 0 to 10 Volt Tuning Resolution
- Remote Oscillator/Driver Location

# .5-10 GHz

YIG DEVICE DRIVERS

**ANALOG REMOTE SERIES (RA-SERIES)** 

FOR MINIATURE ELECTROMAGNETIC DEVICES

### **DESCRIPTION**

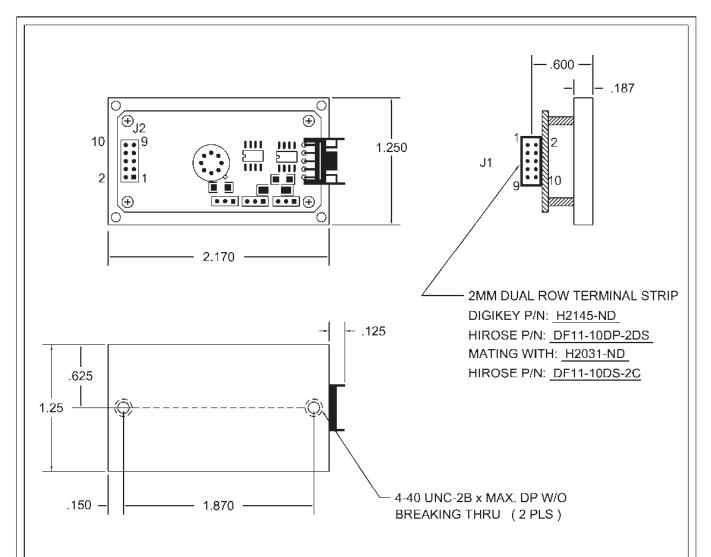
All Micro Lambda Series Miniature YIG Devices are available with remotely located analog driver circuits. These drivers eliminate the need for customers to design or develop their own circuits and sophisticated test and alignment procedures. These remote drivers can be aligned at Micro Lambda's factory to ensure peak performance. Alignment and compensation with the particular YIG Device can be maximized down to the component level.

All drivers in this series provide input voltage regulators and compensation circuits to improve frequency drift. All voltages required by the YIG Device, except the heater inputs are supplied by the voltage regulators.

| COMMERCIAL ANALOG DRIVERS      | 0.5-10 GHz MINIATURE DEVICE, ANALOG REMOTE SERIES   |                      |  |  |
|--------------------------------|---|----------------------|--|--|
| DRIVER INPUT & RESPONSE        | SPECIFICATION                                       | ( 0 to + 65 deg. C ) |  |  |
| Main Coil Driver Function      |   | _                    |  |  |
| Tuning Command                 | 0 Volts = Lowest Frequency                          |                      |  |  |
|                                | 10 Volts = Highest Frequency                        |                      |  |  |
| Tuning Accuracy (Note 1)       | YIG Device Accuracy +2 MHz                          |                      |  |  |
| (excluding hysteresis)         |   |                      |  |  |
| Tuning Speed                   | 5 mS for 1 GHz step to within +/-10 MHz.            |                      |  |  |
| Sweep Speed                    | 50 mS Up / 10 mSec 1 GHz retrace, Linearity @ 0.1 % |                      |  |  |
| (0 - 10 Volt Ramp)             |   |                      |  |  |
| Main Driver Inputs             |   |                      |  |  |
| Supply Voltage & Current       |   |                      |  |  |
| +15V +/5V                      | Device Tuning current @ Max. Frequency +50 mA       |                      |  |  |
| -15V +/5V                      | +50 mA, Max. (-5V YTO Current, if required)         |                      |  |  |
| Supply Voltage Pushing         | +/- 0.2 MHz Max.@ +/5 Vdc (2-3000 kHz)              |                      |  |  |
| Supply Voltage Ripple          | 10 mV Ripple Pk-Pk from 2 kHz to 3 MHz              |                      |  |  |
| Ground                         | Chassis Ground                                      |                      |  |  |
| Heater Voltage Inputs (Note 2) | 750 mA Surge for 2 Sec., 150 mA Steady State        |                      |  |  |
| +24 Vdc +/- 4 Vdc              | Polarity Independent: ±12 Vdc or ±15 Vdc acceptable |                      |  |  |
| Input Impedance                | 10 k-Ohms   |                      |  |  |
| Common Rejection Mode          | > 40 dB (Twisted Pair Leads)                        |                      |  |  |
|                                |   |                      |  |  |

Note 1: Accuracy Includes Temperature Drift & Linearity.

<sup>2.</sup> See particular YIG Device specification for heater current requirements.



# J1 - PIN CONNECTIONS (INPUT)

| PIN | FUNCTIONS     |
|-----|---------------|
| 1   | CONTROL 0-10V |
| 2   | CTRL RTN      |
| 3   | GND           |
| 4   | -SUPPLY       |
| 5   | +SUPPLY       |
| 6   | HEATER +      |
| 7   | HEATER -      |
| 8   | FM+           |
| 9   | FM -          |
| 10  | GND           |

## NOTES:

- 1- (\*): NOT USED FOR FILTER
- 2- RECOMMENDED WIRE SIZE = 22-26 GAUGE

# J2 - CONNECTIONS (YIG)

| PIN | FUNCTIONS      |     |
|-----|----------------|-----|
| 1   | TUNE +         |     |
| 2   | YIG VCC (+12V) | (*) |
| 3   | TUNE -         |     |
| 4   | -5V (OPTIONAL) | (*) |
| 5   | FM +           | (*) |
| 6   | HEATER +       |     |
| 7   | FM -           | (*) |
| 8   | HEATER -       |     |
| 9   | N/C            |     |
| 10  | GND            |     |

| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN NOTES TOLERANCE ARE : TRACTIONS (HOMALS ANGLES | CONTRACT VO.   |        |  | MICROIL  | VMBD/    | A WIDELESS INC |      |
|---|----------------|--------|--|----------|----------|----------------|------|
| # 200 ±32<br># 200 ±320<br># 2016   | APPROVALS      | DATE   | MICRO LAMBDA WIRELESS, INC.              |          |          |                |      |
| NATE CAN  | DRAWN N.NGUYEN | B/3/D4 | REMOTE MINI ANALOG DRIVER ( OPEN BOARD ) |          |          |                | _ 1  |
| TINISE  | CHECKED        |        |  |          |          |                | D)   |
| THE O   | SSUED          |        | 5IZE                                     | ORN63    | DWG, NO. | 51 - 013       | REV. |
| DO NOT SCALE DRAWING  | ·              |        |  | 01/11/03 |          | 31-013         |      |