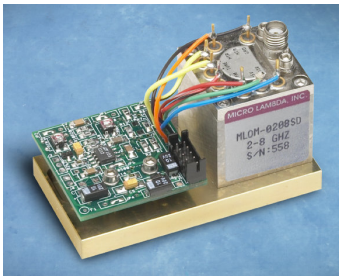
MICRO LAMBDA WIRELESS, INC.

1.0 INCH CUBE YTOs
COMMERCIAL ANALOG DRIVERS
CA-SERIES



FEATURES

- 700 MHz to 18 GHz
- Compensation for Temperature Drift
- Voltage Regulators for Improved Stability
- 0-10 Volt Tuning Resolution

DESCRIPTION

Micro Lambda ***MLOM and MLXM Series*** 1" Cube YIG Oscillators are available with integrated analog driver circuits. These drivers eliminate the need for customers to design or develop their own driver circuits and sophisticated test and alignment procedures. Integrating a driver at Micro Lambda's factory ensures peak performance. Alignment and compensation with the particular YIG oscillator 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 oscillator, except the heater inputs are supplied by the voltage regulators.

COMMERCIAL ANALOG DRIVERS	**.7-18 GHz YTOs, CA & CF 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 (excluding hysteresis)	See Table
Tuning Speed	2 mS for 1 GHz step to within +/-10 MHz. (residual FM is 50-100 kHz Pk-Pk)
Sweep Speed (0-10 Volt Ramp)	25 mS up / 10 mS 1 GHz retrace, Linearity @ 0.1% (residual FM is 50-100 kHz Pk-Pk)
Main Driver Inputs	
Supply Voltage & Current	+15 V +/- .5 V @ Bias Current + Tuning Current +50 mA, Max. -15 V +/- .5 V @ 50 mA, (Plus Oscillator –5 Vdc Current if any)Max.
Supply Voltage Pushing	+/- 100 kHz, Max. @ +/- .5 Vdc
Supply Voltage Ripple	10 mV Ripple Pk-Pk over 2 kHz to 3 MHz
Ground	Chassis Ground
Input Impedance	> 10 k-Ohms
Common Rejection Mode	> 40 dB
YIG Heater Voltage & Current	+24 Vdc ±4 Vdc @ 300 mA surge for 2 seconds, 25 mA steady state Polarity independent : ±12 Vdc or ±15 Vdc acceptable
FM Coil Driver (CF Option)	
Voltage	+/- 10 V
Current	+/- 100 mA
Input Impedance	1 k-Ohms
Sensitivity (Note 1)	+/- 2.5 MHz/V
Frequency Deviation	+/- 25 MHz

Note 1. Sensitivity Adjustment Available. Sensitivity Stated is Average Over Frequency Range.

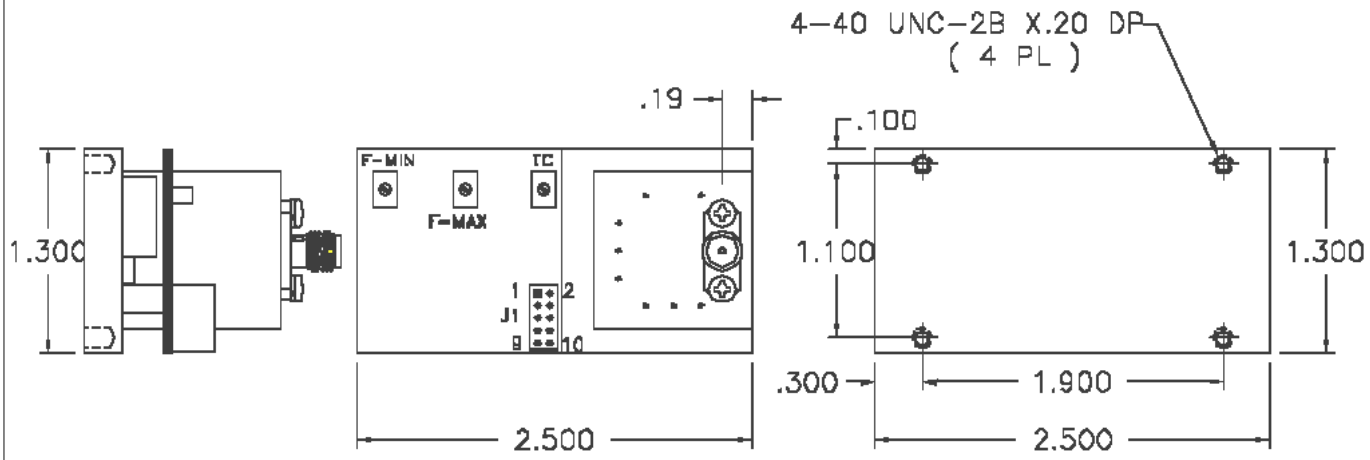
Micro Lambda Wireless, Inc. - 46515 Landing Parkway, Fremont California 94538 * Phone (510) 770-9221 * Fax (510) 770-9213

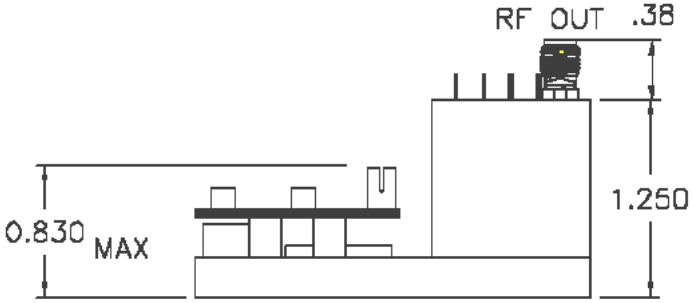
CA-SERIES — CONT.

1” Cube YIG Oscillators with Positive Input Analog Drivers (0º C to +65º C)

Model Number	Frequency GHz	Accuracy (MHz) *	Current +15 V (mA)	Current -15 V (mA)	Outline Drawing	Outline Drawing (CF-Option)
Octave Bands						
MLOM-0102CA	1-2	+/- 3	200	50	11-099	11-093
MLOM-0204CA	2-4	+/- 6	300	50	11-099	11-093
MLOM-0408CA	4-8	+/- 8	500	50	11-099	11-093
MLOM-0812CA	8-12	+/- 12	740	50	11-099	11-093
MLOM-1218CA	12-18	+/- 14	1100	50	11-099	11-093
Multi-Octave Bands						
MLOM-0702CA	.7-2	+/- 4	200	50	11-099	11-093
MLOM-0704CA	.7-4	+/- 5	300	50	11-099	11-093
MLOM-0208CA	2-8	+/- 12	500	50	11-099	11-093
MLOM-0309CA	3-9	+/- 12	550	100	11-099	11-093
MLOM-0210CA	2-10	+/- 15	600	100	11-099	11-093
MLOM-0310CA	3-10	+/- 15	600	100	11-099	11-093
MLOM-0412CA	4-12	+/- 16	780	100	11-099	11-093
MLOM-0716CA	7-16	+/- 18	900	50	11-099	11-093
MLOM-0818CA	8-18	+/- 18	1100	50	11-099	11-093
MLXM-0818CA	8-18	+/- 18	1225	100	11-099	11-093

* Accuracy includes frequency drift and linearity errors over the temperature range.





WEIGHT: 10 Oz

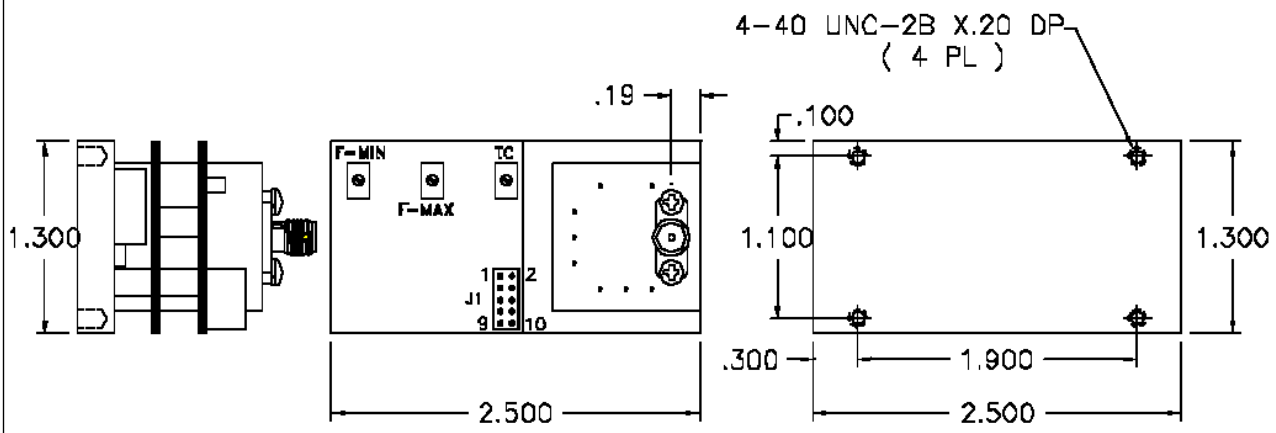
J1 CONNECTION (INPUT)

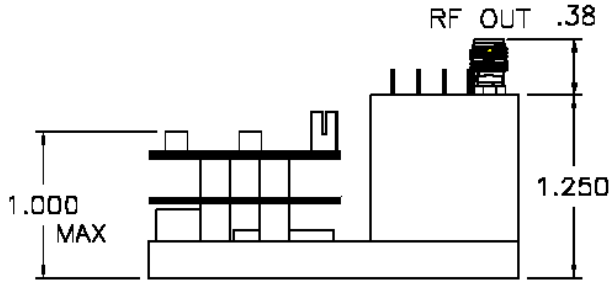
DIGIKEY PART # : H2053–ND(2MM, DUAL ROW VERTICAL)
MATING WITH # : H2031–ND

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 = 20–22 GAUGE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE ARE : FRACTIONS DECIMALS ANGLES .XX ±.010 .XXX ±.005	CONTRACT NO.	MICRO LAMBDA, INC.
MATERIAL	APPROVALS / DRAWN N.NGUYEN / CHECKED / ISSUED	DATE 12/16/99
FINISH		1" OSC. W/ ANALOG DRIVER (1.3 X 2.6 X 1.6")
DO NOT SCALE DRAWING		SIZE / CAGE No. 0RN63 / DWG. NO. 11 – 099 / REV.





WEIGHT: 10 Oz

J1 CONNECTION (INPUT)

DIGIKEY PART # : H2053-ND(2MM, DUAL ROW VERTICAL)
MATING WITH # : H2031-ND

PIN	*FUNCTIONS*
1	CONTROL 0-10V
2	CTRL RTN
3	GND
4	-SUPPLY
5	+SUPPLY
6	HEATER +
7	HEATER -
8	FM V-IN (±10V)
9	FM RTN (GND)
10	GND

NOTES:
1- (*) : NOT USED FOR FILTER
2- RECOMMENDED WIRE SIZE = 20-22 GAUGE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCE ARE :
FRACTIONS DECIMALS ANGLES
.X ±.010
.XXX ±.005
MATERIAL
FINISH
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS	DATE
DRWN N.NGUYEN	1/14/98
CHECKED	
ISSUED	

MICRO LAMBDA, INC.

1" OSC. W/ ANALOG & FM DRIVER (1.3 X 2.5 X 1.6")

SIZE	CAGE No.	DWG. NO.	REV.
	ORN63	11 - 093	