



MICRO LAMBDA WIRELESS, INC.

MLPX SERIES PERMANENT MAGNET YTOs WIDE BAND MILLIMETER (x2)

FEATURES

- 8 GHz Tuning Bandwidth
- 16-40 GHz Frequency Coverage
- Low Phase Noise
- FM/Phase-Lock Port
- High Reliability



DESCRIPTION

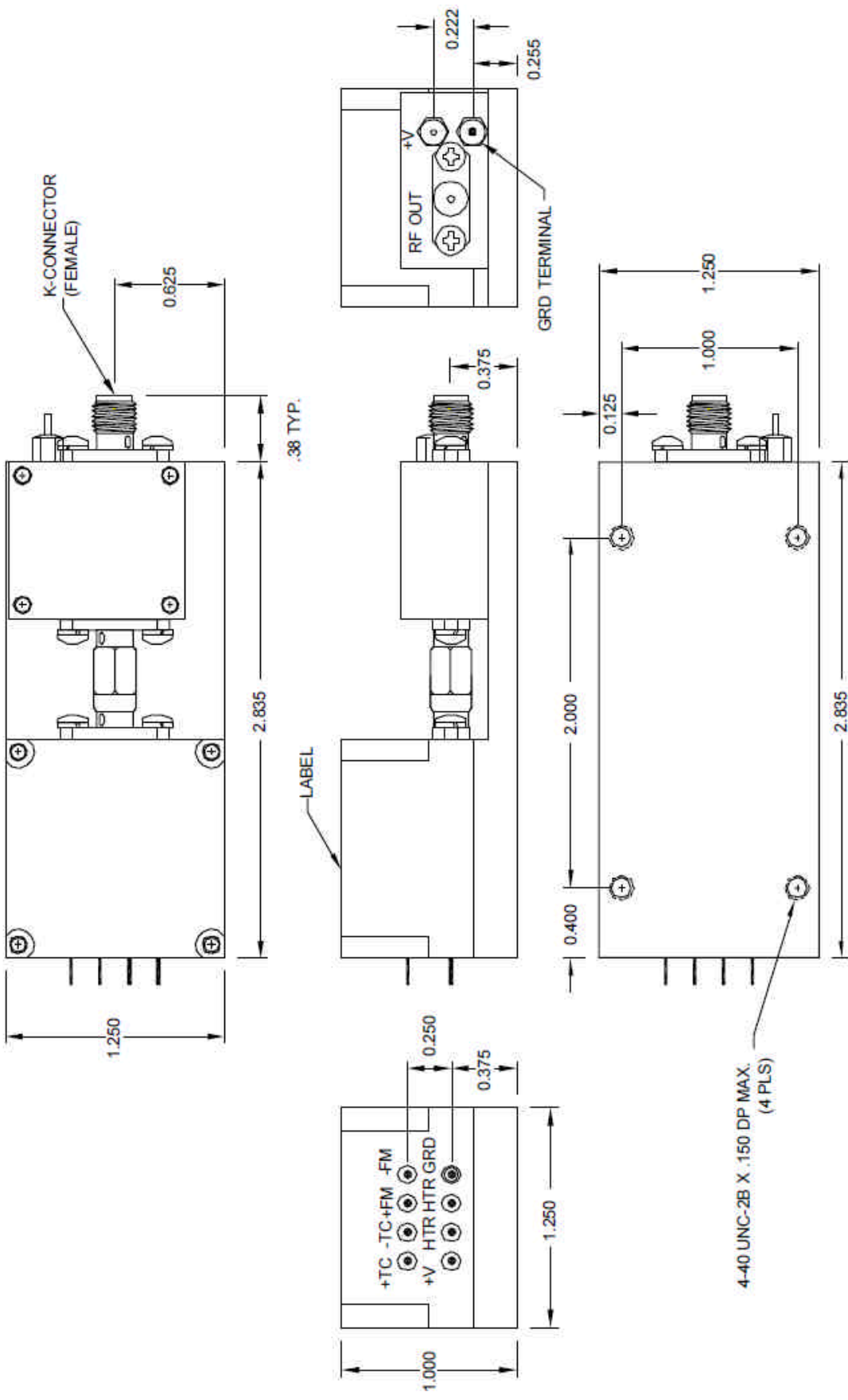
The MICRO LAMBDA MLPX-Series Doubled Permanent Magnet YIG-Tuned Oscillators are signal sources covering the frequency range of **16-40 GHz**. They are available in any customer selected **8 GHz tuning bandwidth** (± 4 GHz). These frequency sources have been specifically designed with the latest permanent magnet technology to yield excellent performance over temperature and environmental conditions. All units operate from a single +12 Volt supply and over the -20° to $+70^{\circ}$ C temperature range. Extensive testing has been performed on these units to qualify them for QPSK, 16 QAM and 64 QAM Digital Radios where microphonics and phase-hits are not tolerated.

ELECTRICAL AND PERFORMANCE SPECIFICATIONS

Guaranteed Specifications at -20° to $+70^{\circ}$ C Case Temperature

Model No.	MLPX-1624	MLPX-2028	MLPX-2836	MLPX-3640
Frequency Range, Min.	16-24 GHz	20-28 GHz	28-36 GHz	36-40 GHz
Free Run Frequency (w/o Main Coil)	20 GHz	24 GHz	32 GHz	40 GHz
Power Output, Min. ^(Note 1)	+10 dBm	+8 dBm	+8 dBm	+8 dBm
Power Output Variation, Max.	+/- 3 dB	+/- 3 dB	+/- 3.5 dB	+/- 4 dB
Frequency Drift over Temperature, Max.	40 MHz	40 MHz	40 MHz	40 MHz
Pulling Figure (12 dB RL), Typ.	2 MHz	2 MHz	2 MHz	2 MHz
Pushing Figure +12 Vdc Supply, Typ.	0.2 MHz/V	0.2 MHz/V	0.2 MHz/V	0.2 MHz/V
2nd Harmonic, Min.	-20 dBc	-20 dBc	-20 dBc	-20 dBc
3rd Harmonic, Min.	-20 dBc	-20 dBc	-20 dBc	-20 dBc
Spurious Output, Min.	-70 dBc	-70 dBc	-70 dBc	-70 dBc
Phase Noise @ 10k Hz Offset	-84 dBc/Hz	-84 dBc/Hz	-79 dBc/Hz	-74 dBc/Hz
@ 100 kHz Offset	-100 dBc/Hz	-100 dBc/Hz	-99 dBc/Hz	-94 dBc/Hz
Main Coil				
Sensitivity, Typ.	28 MHz/mA	28 MHz/mA	20 MHz/mA	20 MHz/mA
Linearity, Typ.	10 MHz	10 MHz	10 MHz	10 MHz
Hysteresis, Typ.	4 MHz	4 MHz	4 MHz	4 MHz
Input Impedance @ 1 kHz, Typ.	45 Ohm / 30 mH	45 Ohm / 30 mH	45 Ohm / 30 mH	70 Ohm / 70 mH
FM Coil				
Sensitivity, Typ.	620 kHz/ma	620 kHz/ma	620 kHz/ma	620 kHz/ma
3 dB Bandwidth, Typ.	800 kHz	800 kHz	800 kHz	800 kHz
Deviation @ 400 kHz Rate, Min.	+/- 100 MHz	+/- 100 MHz	+/- 100 MHz	+/- 100 MHz
Input Impedance @ 1 MHz, Typ.	1.0 Ohm / 2.0uH	1.0 Ohm / 2.0uH	1.0 Ohm / 2.0uH	1.0 Ohm / 2.0uH
DC Circuit Power, Oscillator: +12 Vdc +/- 5%	100 mA	100 mA	100 mA	100 mA
Doublers: + 8 Vdc +/- 5%	350 mA	350 mA	350 mA	350 mA
YIG Heater Power				
Input Voltage Range	+15 Vdc	+15 Vdc	+15 Vdc	+15 Vdc
Current Surge/Steady State, Max.	250 mA / 50 mA	250 mA / 50 mA	250 mA / 50 mA	250 mA / 50 mA
Case Style	61-056	61-056	61-056	61-056

Note 1: Higher output power available



4-40 UNC-2B X .150 DP MAX.
(4 PLS)

MICRO LAMBDA WIRELESS, INC.		CONTRACT NO.	
PMO WITH DOUBLER		APPROVALS:	
DRAWN: N NGUYEN		DATE: 02/13/04	
CHECKED:		DESIGNED:	
SKETCHED:		DATE:	
FINISH:		MATERIAL:	
DO NOT SCALE DRAWING		SCALE:	
SIZE: 0RN63	DWG NO: 61-056	REV: A	SHEET:

WEIGHT: 4 Oz.