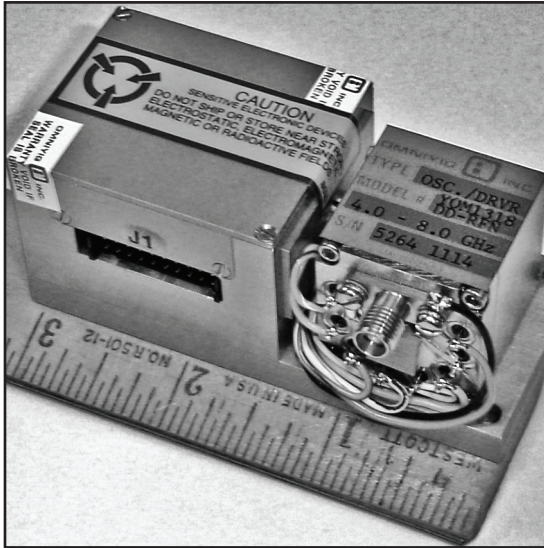


MINIATURE PACKAGING YIG OSCILLATORS WITH 12 BIT DIGITAL DRIVERS

## YIG OSCILLATORS 2-18 GHz

NEW TRANSISTOR DESIGN • LOW FM NOISE • 140 dBc @ 1 MHz



### FEATURES

- Miniature Packaging
- Super Temperature Stability
- Excellent Tuning Linearity  $\pm 0.10\%$
- 2nd Harmonic 12 dB down
- All Other Spurious Signals 60 dB down
- Qualification to MIL-E-5400 Class II Specifications Available

### APPLICATIONS

- ECM Systems
- Spectrum Analyzers
- Sweep Generators
- Frequency Synthesizers

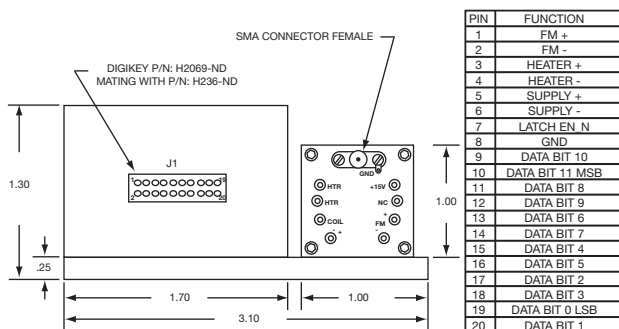
### DESCRIPTION

The Omniyig YOM Series provides fundamental YIG-tuned oscillator designs electronically tuned in octave and multi octave bands. These units feature a novel coupling technique to provide maximum RF power output and a lower second harmonic and other spurious responses. The superb linearity of these oscillators is contributed by the ideal design of the magnetic circuit and the coupling technique used between the YIG sphere and the active element and packaged in the smallest of footprints - driver integrated and miniaturized.

These oscillators are available in models covering the frequency ranges from 2 to 18.0 GHz. They are available in standard solid magnetic shell or in fast sweeping models. The electromagnetic circuit is driven from a current source and drivers are available that can be supplied as integral parts to the oscillator. A typical analog driver control input of 0 to 10 volts will tune the oscillator the full frequency band and the unit can be integrated with a 12 bit digital driver to tune with a programmable computer.

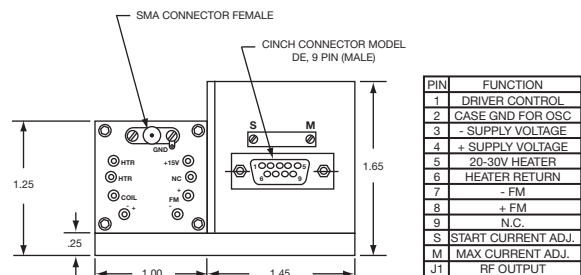
### OUTLINE DRAWING No. 83081

Miniaturized High-band Oscillator with Digital Driver



### OUTLINE DRAWING No. 82759

Miniaturized High-band Oscillator with Analog Driver



## ELECTRICAL SPECIFICATIONS

Model Number	UNITS	YOM3824-1	YOM3824-2	YOM3824-3	YOM3824-4	YOM3824-5
Frequency Range	GHz	0.5 - 2.0	1.0 - 4.0	2.0 - 6.0	4.0 - 11.0	2.0 - 10.0
RF Power Output (Minimum)	mW	20	20	20	20	20
RF Power Output Variation	dB	±2	±2	±2	±2	±2
Pulling figure (VSWR 2:1)	MHz	0.5	0.5	0.5	0.5	0.5
Second Harmonic	dBc	>12	>12	>12	>12	>12
Other Spurious Signals	dBc	>60	>60	>60	>60	>60
Frequency Drift (0° to +60°C)	MHz	±8	±8	±8	±12	±12
Tuning Linearity	MHz	±0.2%	±0.2%	±0.2%	±0.2%	±0.2%
Hysteresis	MHz	2	2	4	4	4
Tuning Speed	msec	10	10	10	10	10
Tuning Sensitivity (Typical)	MHz/mA	18	10	15	15	15
Coil Resistance (Typical)	ohm	10	10	10	5	8
Coil Inductance (Typical)	mH	40	40	40	40	60

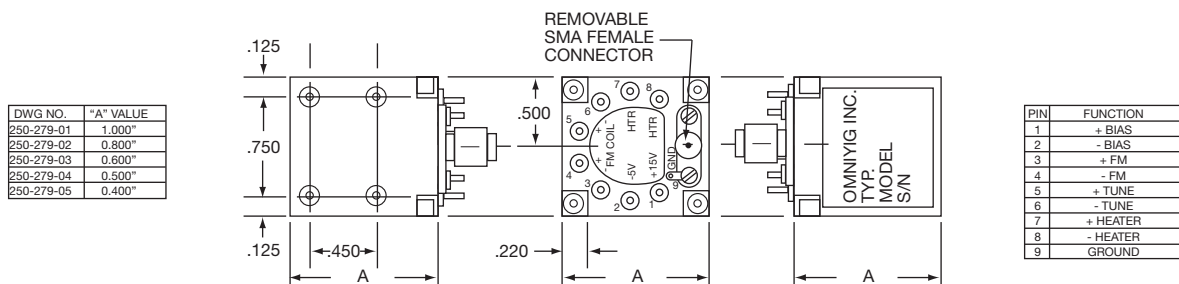
## MECHANICAL SPECIFICATIONS w/ Digital Driver Oscillator Only

Dimensions	1.4" x 1.3" x 3.1"	1" x 1" x 1"
Output RF Connector (female)	3 mm	3 mm
DC Connector	Solder Pins	Solder Pins
Weight	8 oz	2 oz
Mounting (Tapped Holes x 4)	#6 - 32	#6 - 32
Drawing	83081DD	250-089-xx

## POWER SUPPLY REQUIREMENTS

Oscillator Supply	+15 Vdc @ 125 mA Operating (typical)
Heater Supply	18 - 30 Vdc @ 100 mA, Steady State

## OUTLINE DRAWING No. 250-089-xx



VIEW "A": DIMENSIONS

VIEW "B": SMA REMOVED, PIN VISIBLE

