

## 2 to 18.0 GHz YIG-TUNED BIPOLAR OSCILLATORS

### VERY Low FM Noise & Highly Reliable State-of-the-Art Thin-Film Technology

OMNIYIG's 2 to 18 GHz oscillators employ thin-film technology, coupled with Bipolar transistors, and were designed using Computer Aided Design to provide highly reliable state-of-the-art performance with very low FM noise.

#### 10 and 30 mW and Higher RF Power Outputs

Two versions, +10 mW and +30 mW, are available, and each oscillator can be furnished in either a mini-cube or cylindrical package to meet your system's electrical and mechanical requirements, or other package.

#### Advanced Electrical Performance

Electronically tunable over the entire fundamental 2 to 18 GHz frequency range, these oscillators feature advanced coupling techniques to provide the highest power outputs available in the industry with the lowest second harmonic and spurious responses.

#### Superb Linearity - Better Than $\pm 12.5$ MHz

OMNIYIG's proprietary magnetic circuit, and the coupling technique used between YIG sphere and active element, make the linearity of these oscillators better than  $\pm 12.5$  MHz.

#### With or Without Driver

Oscillators can be furnished stand-alone, or with integrated analog or digital drivers. A typical analog driver control input of 0 to 10 volts tunes the oscillator over the full frequency band. OMNIYIG's integrated 12-bit D to A converter allows you to step frequency in small increments using a TTL input.

#### Commercial or Military Use

Our standard oscillators are specified to operate from -20 to +65°C. However, all of OMNIYIG's products can be furnished to military specifications such as MIL-E-5400 class II/MIL-STD-883. OMNIYIG provides comprehensive environmental testing to insure compliance to these requirements with operating temperatures from -54°C to +85°C.

#### Quality Assurance

Our Quality Assurance department maintains all documents in conformance to MIL-I-45208, and a calibration system to control and certify measurement accuracy in accordance with MIL-C-455662A.

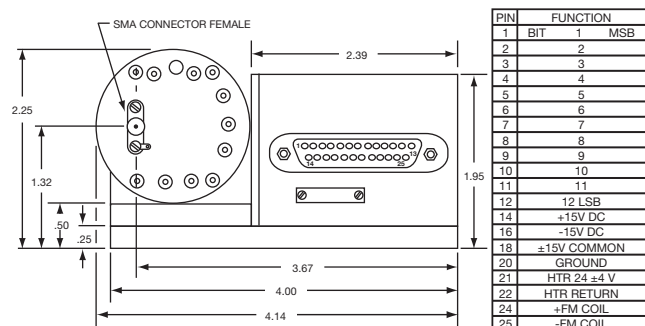
### OUTLINE DIMENSIONS

#### NOTES:

- Each oscillator will have test data sheet and the exact voltage will be indicated.
- YIG drivers for the above models are supplied in one integral package with oscillator, if required:  
DWG 250-380 Oscillator Only  
DWG 82532-05 Analog Driver  
DWG 82474-01 Digital Driver
- Driver control voltage is typically 0-10 volts—for digital; 12-bit driver also available.
- Other frequency ranges are available upon request.
- Higher power outputs are also available.
- Other package styles are available.
- Model numbers for analog, add (-D); for digital, add (-DD).

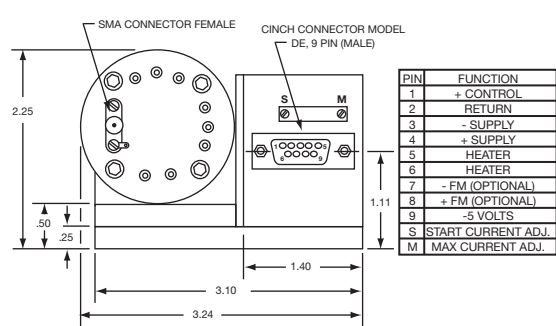
#### OUTLINE DRAWING No. 82474-01

Standard High-band Oscillator with Digital Driver



#### OUTLINE DRAWING No. 82532-05

Standard High-band Oscillator with Analog Driver



## ELECTRICAL SPECIFICATIONS

Model Number	UNITS	YOM3676	YOM3679	YOM3680	YOM3681
Frequency Range	GHz	2.0 - 18.0	4.0 - 18.0	5.0 - 18.0	6.0 - 18.0
RF Power Output (Minimum)	mW	13	13	13	13
RF Power Variation	dB	3	3	3	3
Pulling figure (VSWR 1.5:1)	---	0.5	0.5	0.5	0.5
FM Noise @ 100 KHz Away	dBc	115	115	115	115
FM Noise @ 10 KHz Away	dBc	90	90	90	90
Second Harmonic	dBc	-12	-12	-12	-12
Other Spurious Signals	dBc	>60	>60	>60	>60
Frequency Drift (0°C to +55°C)	MHz	±15	±15	±15	±15
Tuning Linearity	MHz	±15	±15	±15	±15
Hysteresis	MHz	16	14	13	12
Tuning Speed	mSec	18	18	18	18
Tuning Sensitivity (Typical)	MHz/mA	24	24	24	24
Coil Resistance (Typical)	ohm	10	10	10	10
Coil Inductance (Typical)	mH	110	110	110	110

## MECHANICAL SPECIFICATIONS, all model numbers

Dimensions - Yig Oscillator Only	1.75" x 1.5" cyl.
Output RF Connector (female)	3 mm
DC Connector	Solder Pins
Weight	20 oz
Mounting (Tapped Holes x 4)	#6 - 32
Drawing - Yig Oscillator Only	250-380
Drawing - w/ Analog Driver	82532-05
Drawing - w/ Digital Driver	82474-01

## POWER SUPPLY REQUIREMENTS, all model numbers

Oscillator Supply	+15 Vdc @ 300 mA, -5 V Vdc @ 50 mA Operating (typical)
Heater Supply	20 - 30 Vdc @ 150 mA, Steady State

## OUTLINE DRAWING No. 250-380

Standard High-band Oscillator

