

2 to 18 GHz YIG-TUNED GaAs FET OSCILLATORS

Highly Reliable State-of-the-Art Thin-Film Technology Integrated with Analog or 12-bit Digital Drivers



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

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 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 ± 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 ± 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.

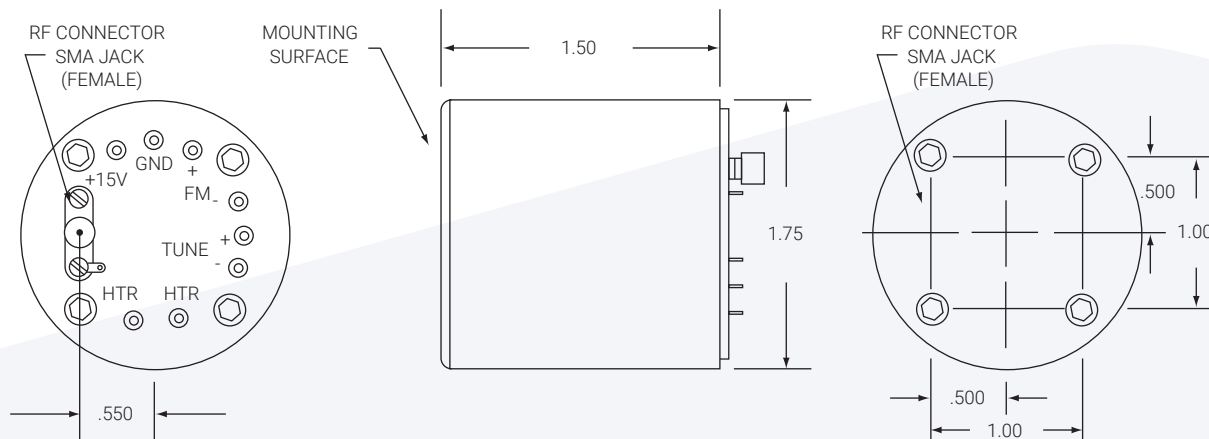
Commercial or Military Use

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.

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



ELECTRICAL SPECIFICATIONS

Model Number	UNITS	YOM2320	YOM2321	YOM2322	YOM1513	YOM1514
Frequency Range	GHz	2.0 - 10.0	2.0 - 12.0	5.0 - 18.0	4.0 - 10.0	4.0 - 12.0
RF Power Output (Minimum) ⁵	mW	13	13	13	13	13
RF Power Output Variation	dB	±4	±4	±6	±4	±4
Pulling figure (VSWR 1.5:1)	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 (-20° to +60°C)	MHz	±10	±10	±18	±10	±10
Tuning Linearity	MHz	±8	±8	±40	±18	±8
Hysteresis	MHz	10	10	18	10	12
Tuning Speed	mSec	10	10	10	10	10
Tuning Sensitivity (Typical)	MHz/mA	18	18	18	18	18
Coil Resistance (Typical)	ohm	10	10	10	10	10
Coil Inductance (Typical)	mH	100	100	100	100	100

MECHANICAL SPECIFICATIONS, all model numbers

Dimensions	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)	250-014

POWER SUPPLY REQUIREMENTS, all model numbers

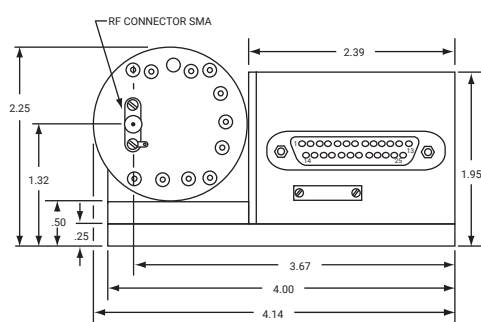
Oscillator Supply	+15 Vdc @ 300 mA, -5 V Vdc @ 50 mA Operating (typical)
Heater Supply	20 - 30 Vdc @ 150 mA, Steady State

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 82532 Analog Driver, DWG 82474 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

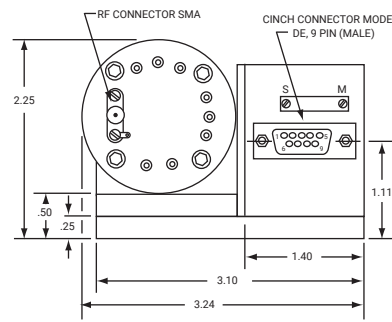
Standard High-band Oscillator with Digital Driver



PIN	FUNCTION	
	BIT	MSB
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
14		+15V DC
16		-15V DC
18		±15V COMMON
20		GROUND
21		HTR 24 ±4 V
22		HTR RETURN
24		+FM COIL
25		-FM COIL

OUTLINE DRAWING No. 82532

Standard High-band Oscillator with Analog Driver



PIN	FUNCTION
1	DRIVER CONTROL
2	CASE GND FOR OSC
3	- SUPPLY VOLTAGE
4	+ SUPPLY VOLTAGE
5	20 - 30V HEATER
6	HEATER RETURN
7	- FM
8	+ FM
9	N.C.
S	START CURRENT ADJ.
M	MAX CURRENT ADJ.
J1	RF OUTPUT