

WIDEBAND MICROCUBE™ OSCILLATORS 2 TO 18 GHz SERIES

FEATURES

Multi-Octave Frequency Performance
 1.25 inch **MICROCUBE™** Package
 Low Phase Noise
 Low Spurious

APPLICATIONS

Microwave Test Equipment
 Frequency Synthesizers
 Up & Down Converters



DESCRIPTION

MCO series of multi-octave YIG tuned oscillators covering the 2 to 10 and 8 to 18 GHz frequency ranges provide excellent spectral purity and frequency drift performance in 1.25 in. **MICROCUBE™** packages. Typical phase noise is -100 dBc/Hz and -90 dBc/Hz @ 10 kHz offset for the 2-10 GHz and 8-18 GHz oscillators respectively.

	Model #	MCO-0210-500-01	MCO-0818-500-01
Parameter	Units	Specification	Specification

General Characteristics

Frequency Range	GHz, min.	2.0 -10	8-18
RF Power	dBm, min.	12	15
RF Power Variation (Freq. & Temp.)	dBm, max.	±3 dB	±2 dB
Harmonic Level	dBc, max.	-10	-15
Non Harmonic Spurious	dBc, max.	-60	-70
SSB Phase Noise			
10 KHz offset	dBc/Hz, typ.	-100	-90
100 KHz offset	dBc/Hz, typ.	-120	-115
Freq. Drift (over Temp.)	MHz, Typ.	±15	± 20
Freq. Pulling (into a 2:1 load VSWR)	MHz, Typ.	0.5	0.5

Main Coil Characteristics

Sensitivity	MHz/mA, max.	20 ± 10%	20 ± 10%
Bandwidth	kHz, typ.	5	5
Linearity (from best fit line)	max.	0.15 %	0.1 %
Hysteresis	MHz, max.	6	6
Coil Impedance Ohms	ohms, typ..	8	8
Inductance	mH, typ.	35	35
Connection Capacity (per pin)	pF, typ.	100	100

FM Coil Characteristics

Sensitivity	kHz/mA, max.	310 ± 15%	300 ± 15%
3 dB Bandwidth	MHz, typ.	0.8	0.8
Coil Impedance Ohms	ohms, typ.	1.0.	1.0.
Inductance	uH, typ.	1.0.	1.0.
Connection Capacity (per pin)	pF, typ.	27	27

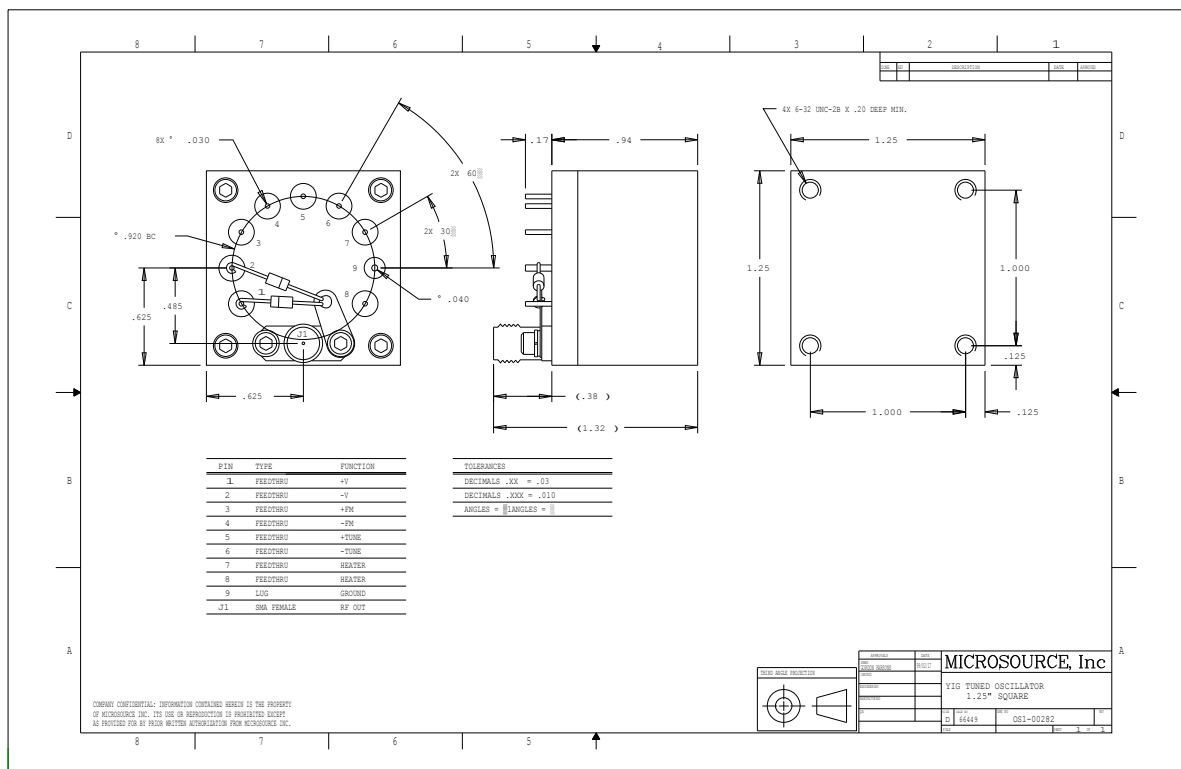
DC Circuit Power

Bias Voltage & Currents			
Positive Supply	mA, max.	+12 Vdc @ 150 mA	+15 Vdc @ 225 mA
Negative Supply	mA, max.	N/A	-5 Vdc @ 30 mA
YIG Heater Power 20 to 32 Vdc	mA, max.	35 Steady State 400 surge	35 Steady State 400 surge
Connection Capacity (per pin)	pF, typ.	1000	1000
Power Supply Pushing Positive	MHz/V, typ.	0.5	0.5
Negative	MHz/V, typ.	N/A	1

Packaging & Environmental

Size (See attached figure)	inches	1.25 x 1.25 x 1.0	1.25 x 1.25 x 1.0
Weight	oz	12	12
Operational Case Temperature	Degees C, min.	0 to 65	0 to 65

Envelope Drawing, 1.25 Inch *MICROCUBE™*



Customer Specific Applications

If you don't see what you need, contact us. MicroSource takes pride in being a world class, fast turn design center for microwave YIG based component, subsystems and synthesizers.