

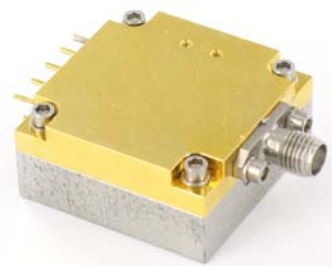
LOW PROFILE OSCILLATORS (LPO) 3 TO 10 GHz SERIES

FEATURES

Low Profile Package
Wide FM Coil Bandwidth
Low Phase Noise
Single Bias Supply

APPLICATIONS

Microwave Test Equipment
Frequency Synthesizers
Up & Down Converters
Communications Systems



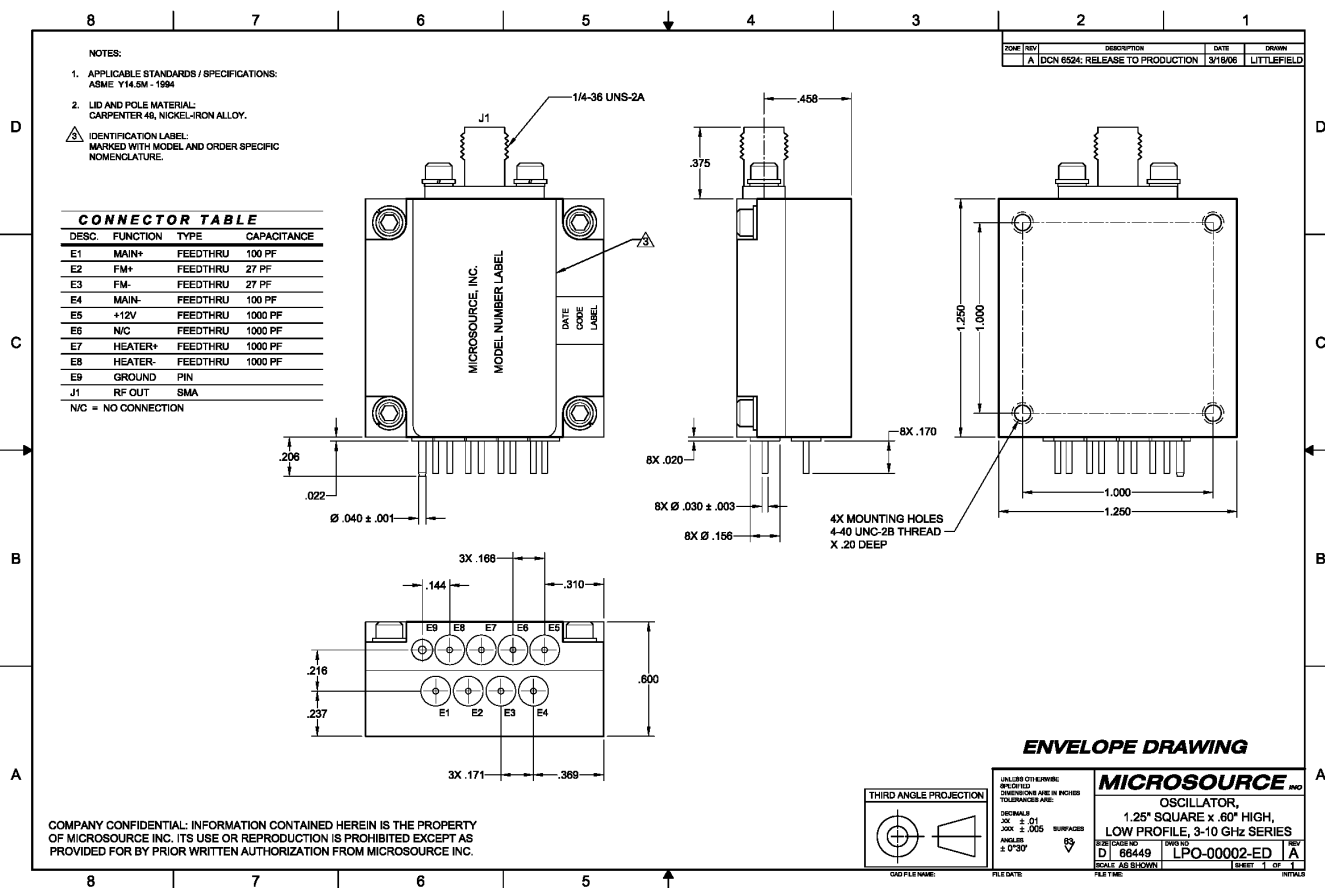
Description

The LPO 3-10 GHz series of YIG tuned oscillators provides excellent phase noise (typically better than – 104 dBc/Hz @ 10 kHz) in a low profile package. The FM coil bandwidth is typically greater than 3.5 MHz, allowing for faster frequency modulation and greater PLL bandwidths in synthesizer design applications. As an added feature, all oscillators of this series use a single positive 12 V supply.

	Model #	LPO-0307-530-01	LPO-0408-530-01	LPO-0410-530-01
Parameter	Units	Specification	Specification	Specification
General Characteristics				
Frequency Range	GHz, min.	3-7	4-8	4-10
RF Power	dBm, min.	11	11	11
RF Power Variation (Freq. & Temp.)	dBm, max.	±3	±3	±3
Harmonic Level	dBc, max.	-12	-12	-12
Non-Harmonic Spurious	dBc, max.	-70	-70	-70
SSB Phase Noise		Typical Max.	Typical Max.	Typical Max.
10 KHz offset	dBc/Hz	-106 -100	-106 -100	-104 -100
100 KHz offset	dBc/Hz	-127 -120	-127 -120	-126 -120
Freq. Drift (over Temp.)	MHz, typ.	±15	±15	±15
Freq. Pulling (12 dB return loss)	MHz, typ.	0.1	0.1	0.1
Main Coil Characteristics				
Sensitivity	MHz/mA, max.	20 ± 10%	20 ± 10%	20 ± 10%
Bandwidth	kHz, typ.	5	5	5
Linearity (from best fit line)	MHz, max.	0.1 %	0.1 %	0.1 %
Hysteresis	MHz, max.	8	8	9
Coil Impedance Ohms	ohms, typ.	9	9	9
Inductance	mH, typ.	19	19	19
Connection Capacity (per pin)	pF, typ.	100	100	100
FM Coil Characteristics				
Sensitivity	kHz/mA, max.	310 ± 15%	310 ± 15%	310 ± 15%
3 dB Bandwidth	MHz, typ.	3.5	3.5	3.5
Coil Impedance Ohms	ohms, typ.	0.6	0.6	0.6
Inductance	uH, typ.	0.4	0.4	0.4
Connection Capacity (per pin)	pF, typ.	27	27	27
DC Circuit Power				
Bias Voltage & Currents				
+12 Vdc	mA, max	150	150	150
YIG Heater Power 20 to 32 Vdc	mA, max	35 Steady State 400 surge	35 Steady State 400 surge	35 Steady State 400 surge
Connection Capacity (per pin)	pF, typ.	1000	1000	1000
Power Supply Pushing (+12 Volt)	MHz/V, typ.	0.2	0.2	0.2
Packaging & Environmental				
Size (See attached figure)	inches	1.25 x 1.25 x 0.6	1.25 x 1.25 x 0.6	1.25 x 1.25 x 0.6
Weight	oz. typ.	3	3	3
Operational Case Temperature	Deg C	0 to 65	0 to 65	0 to 65

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Envelope Drawing, LPO 530 Series YIG Oscillator



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.