

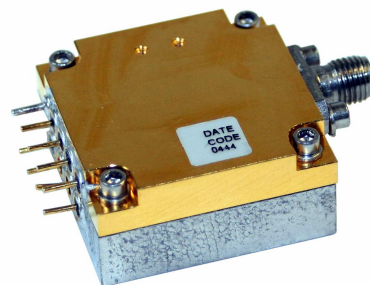
FAST TUNE OSCILLATORS (FTO) 3 TO 10 GHZ SERIES

FEATURES

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

APPLICATIONS

Microwave Test Equipment
 Frequency Synthesizers
 Up & Down Converters
 Communications Systems



DESCRIPTION

The FTO series of low profile YIG oscillators achieves frequency-tuning speeds approximately five (5) times faster than the older industry standard MCO series oscillators with outstanding phase noise characteristics (typically -104 dBc/Hz at 10 kHz). Along with enhanced tuning speed characteristics of the main coil, the FM coil bandwidth typically is greater than 3.5 MHz; allowing for faster frequency modulation and greater PLL bandwidths in synthesizer design applications. As an added feature, all oscillators use a single positive 12 V supply.

	Model #	FTO-0307-540-01	FTO-0408-540-01	FTO-0410-540-01
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, max.	-106 -100	-106 -100	-104 -100
100 KHz offset	dBc/Hz, max.	-129 -122	-127 -120	-124 -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.	10 ± 1.5	10 ± 1.5	10 ± 1.5
Bandwidth	kHz, typ.	16	16	16
Linearity (from best fit line)	MHz, max.	0.1 %	0.1 %	0.1 %
Hysteresis	MHz, max.	8	8	9
Coil Impedance Ohms	ohms, typ..	2	2	2
Inductance	mH, typ.	3.3	3.3	3.3
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

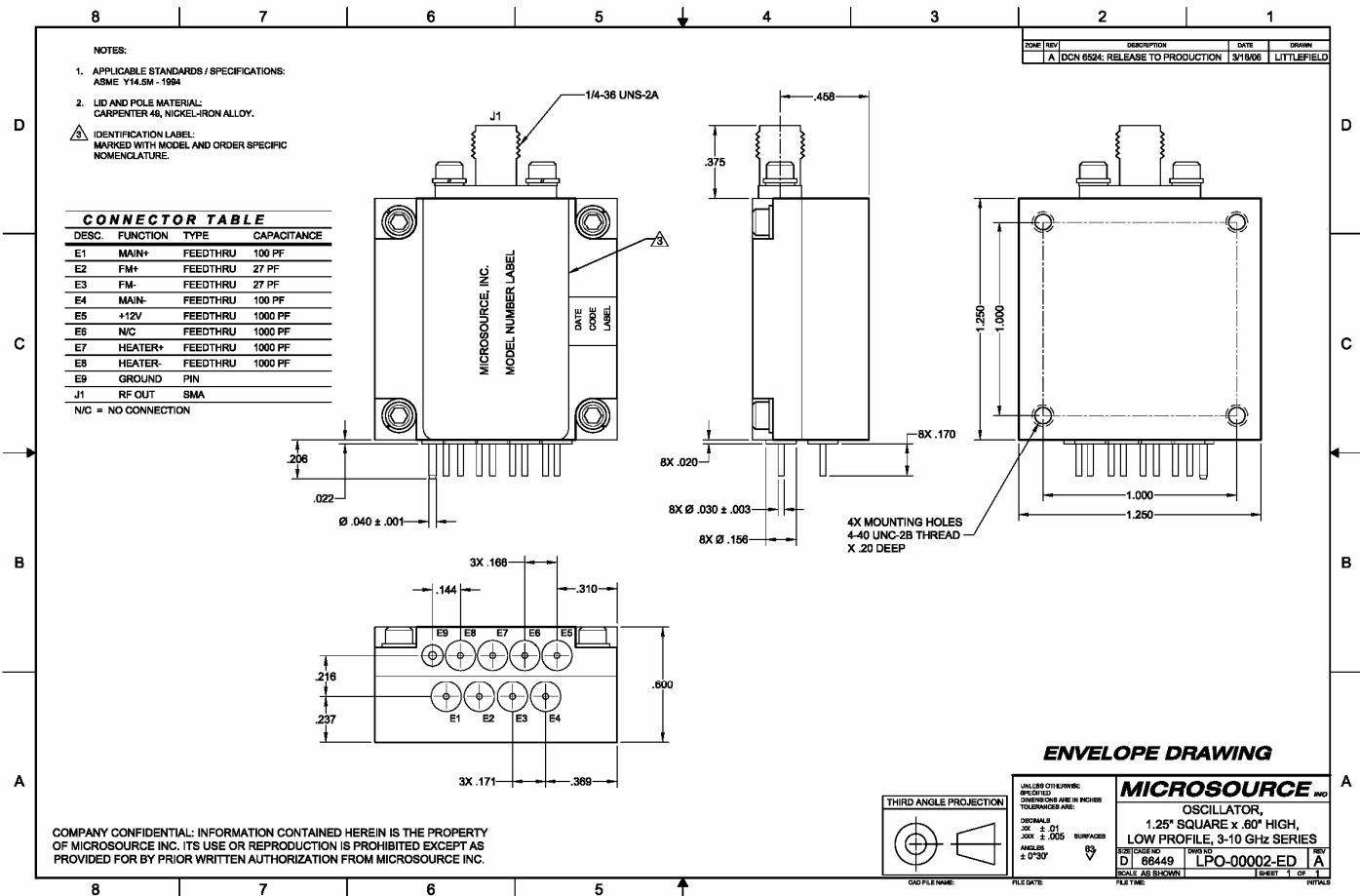
Bias Voltage & Currents				
+12 Vdc	mA, max	150	150	150
YIG Heater Power 20 to 32 Vdc	mA, max	35 Steady State 400 surge	35 Steady State 400 surge	35 Steady State 400 surge
Connection Capacity (per pin)	pF, typ.	1000	1000	1000
Power Supply Pushing +12 Volt	MHz/V, typ.	0.2	0.2	0.2

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	3	3	3
Operational Case Temperature	Deg C	0 to 65	0 to 65	0 to 65

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Envelope Drawing, FTO 540 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.