

1 GHz Phase Locked Oscillator, 100 MHz External Ref., Phase Noise -110 dBc/Hz and SMA

The FMXC7006 is a highly reliable Phase Locked Oscillator (PLO) Module that operates at a fixed frequency of 1,000 MHz. The versatile low noise signal source supports a 100 MHz External Reference for design flexibility. Impressive performance includes an output power level of +7 dBm typical and low phase noise performance of -110 dBc/Hz @ 10 KHz offset typical, while using a +12V single DC supply. The design also exhibits excellent Spurious suppression levels < -70 dBc typical. The PCB solder assembly is RoHS compliant and available in a compact coaxial package that's Nickel plated and supports SMA connectors with DC bias pins and a TTL Lock Detect pin available to signal an out-of-lock condition. The Phase Locked Oscillator operates over a temperature range of -30°C to +70°C and is designed to meet MIL-STD-202 test conditions for Vibration and Shock.

Electrical Specifications

Description	Min	Typ	Max	Units
Output Frequency		1000		MHz
Output Impedance		50		Ohms
Output Power	+4	+7	+10	dBm
Phase Noise @ 1kHz Offset		-105	-100	dBc/Hz
Phase Noise @ 10kHz Offset		-110	-105	dBc/Hz
Phase Noise @ 100kHz Offset		-120	-115	dBc/Hz
Phase Noise @ 1MHz Offset		-140	-135	dBc/Hz
Reference Frequency		100		MHz
Reference Impedance		50		Ohms
Ref. Input Power	+4	+7	+10	dBm
Ref. Phase Noise @ 10Hz Offset		-95		dBc/Hz
Ref. Phase Noise @ 100Hz Offset		-105		dBc/Hz
Ref. Phase Noise @ 1kHz Offset		-135		dBc/Hz
2nd Harmonics		-25	-20	dBc
Spurious		-70	-65	dBc
Lock Detect	5 VDC TTL, High=Lock			
Supply Voltage (DC) 1		12		Vdc
Supply Current (DC) 1		150	200	mA

Mechanical Specifications

Size	
Length	2 in [50.8 mm]
Width	1.5 in [38.1 mm]
Height	0.6 in [15.24 mm]
Weight	0.105 lbs [47.63 g]
Body Material and Plating	Aluminum

Configuration

Design	Commercial
Reference Type	External
Package Style	Connectorized
Input Connector	SMA Female
Output Connector	SMA Female



Features:

- Phase Locked Oscillator (PLO) Module
- 1,000 MHz Fixed Frequency
- 100 MHz External Reference Frequency
- Output Power: +7 dBm typical
- Low Phase Noise: -110 dBc/Hz @ 10 kHz offset typical
- Low Spurious Suppression: < -70 dBc typical
- Nickel Plated Compact Package
- SMA Connectors
- TTL Lock Detect Pin
- -30°C to +70°C Operating Temperature
- Designed to meet MIL-STD-202 Test Conditions

Applications:

- Local Oscillator
- Microwave Radio
- Communication and Sensor Systems
- Test Instrumentation
- Telecom Infrastructure
- Electronic Warfare
- Electronic Countermeasures
- Space Systems

Fairview Microwave
 301 Leora Ln., Suite 100
 Lewisville, TX 75056
 Tel: 1-800-715-4396 / (972) 649-6678
 Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

Environmental Specifications

Temperature

Operating Range

-30 to +70 deg C

Shock

IAW MIL-STD-202, Method 213, Condition A

Vibration

IAW MIL-STD-202, Method 204, Condition A

ESD Sensitivity

ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.



Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

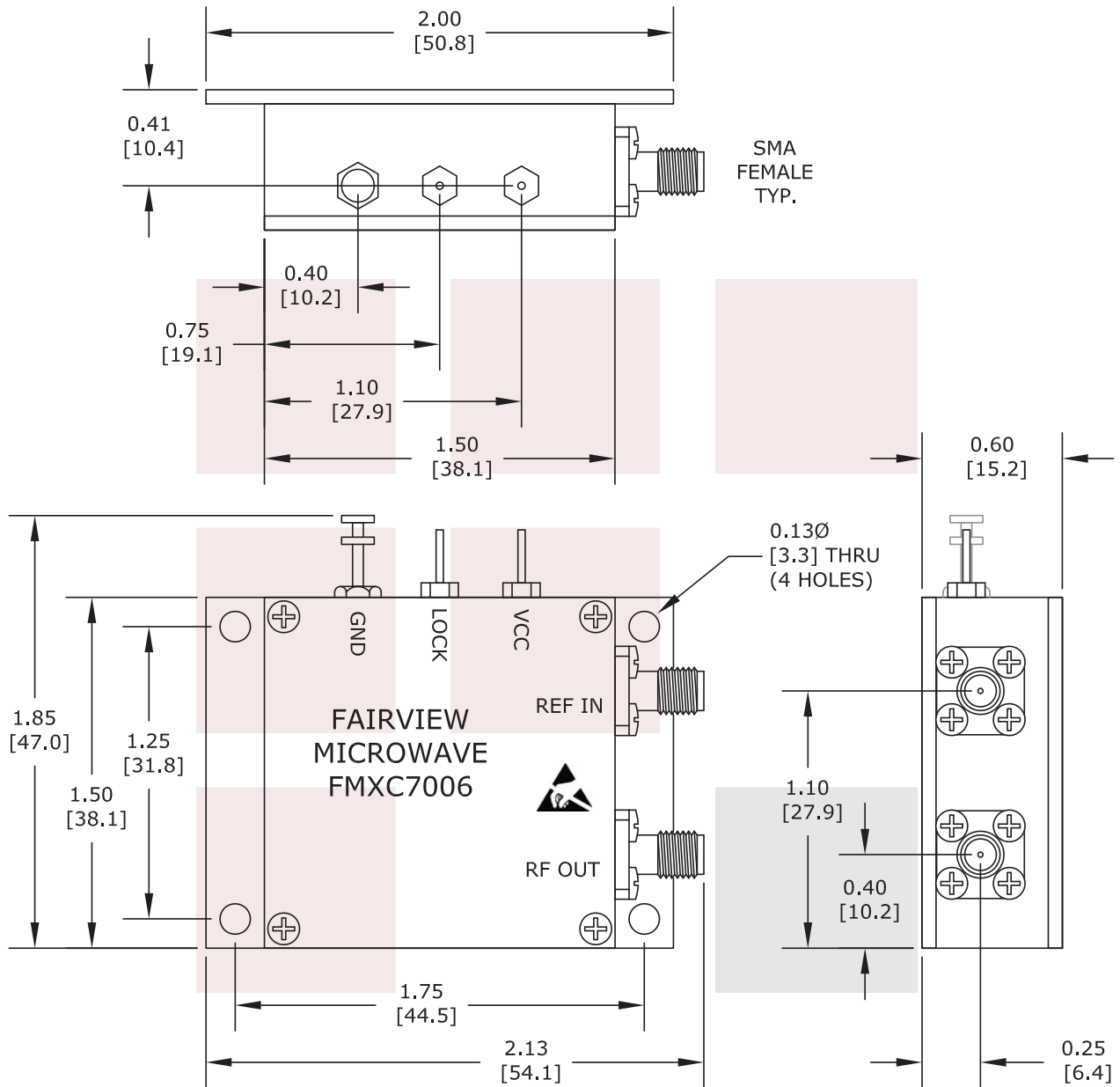
Notes:

1 GHz Phase Locked Oscillator, 100 MHz External Ref., Phase Noise -110 dBc/Hz and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [1 GHz Phase Locked Oscillator, 100 MHz External Ref., Phase Noise -110 dBc/Hz and SMA FMXC7006](#)

URL: <https://www.fairviewmicrowave.com/1000-mhz-phase-locked-oscillator-external-fmxc7006-p.aspx>

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NOTE: HOUSING IS GROUND.

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TITLE 1 GHz Phase Locked Oscillator, 100 MHz External Ref., Phase Noise -110 dBc/Hz and SMA		DWG NO FMXC7006		CAGE CODE 3FKR5	
CAD FILE	011316	SHEET	SCALE	N/A	SIZE A 2233