

2 GHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -100 dBc/Hz and SMA

The FMXC7002 is a highly reliable Phase Locked Oscillator (PLO) module that operates at a fixed frequency of 2,000 MHz. The versatile design supports a 10 MHz External Reference for design flexibility. Impressive performance includes an output power level of +7 dBm typical and low phase noise performance of -100 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		2		GHz
Output Impedance		50		Ohms
Output Power	+4	+7	+10	dBm
Phase Noise @ 1kHz Offset		-90	-85	dBc/Hz
Phase Noise @ 10kHz Offset		-100	-95	dBc/Hz
Phase Noise @ 100kHz Offset		-120	-115	dBc/Hz
Phase Noise @ 1MHz Offset		-140	-135	dBc/Hz
Reference Frequency		10		MHz
Reference Impedance		50		Ohms
Ref. Input Power	+4	+7	+10	dBm
Ref. Phase Noise @ 10Hz Offset		-110		dBc/Hz
Ref. Phase Noise @ 100Hz Offset		-130		dBc/Hz
Ref. Phase Noise @ 1kHz Offset		-145		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	0.1055 lbs [47.85 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
- 2,000 MHz Fixed Frequency
- 10 MHz External Reference Frequency
- Output Power: +7 dBm typical
- Low Phase Noise: -100 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:

- Phase Locked Loop
- Function Generators
- Frequency Synthesizers
- Receivers
- Electronic Jamming Equipment
- Local Oscillator
- Wireless Communications
- SATCOM
- Optical Communications
- Military Electronic 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

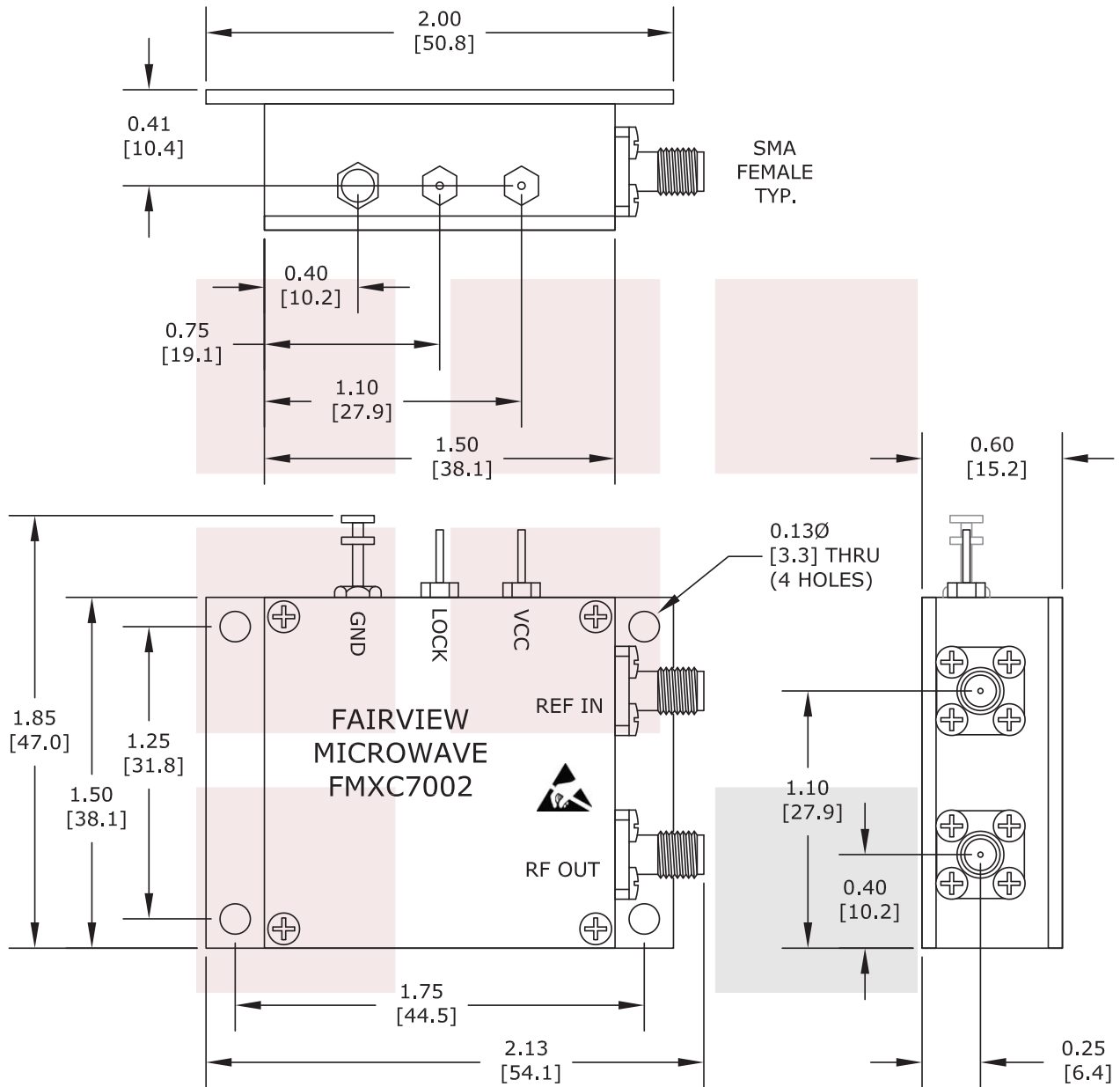
Notes:

2 GHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -100 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: [2 GHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -100 dBc/Hz and SMA FMXC7002](#)

URL: <https://www.fairviewmicrowave.com/2-ghz-phase-locked-oscillator-external-fmxc7002-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



NOTE: HOUSING IS GROUND.

FAIRVIEW MICROWAVE INC. ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM		NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].			
TITLE 2 GHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -100 dBc/Hz and SMA		DWG NO FMXC7002		CAGE CODE 3FKR5	
CAD FILE	011316	SHEET	SCALE	N/A	SIZE A 2233