

100 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -150 dBc/Hz and SMA

FMXR1005 is a 100 MHz Reference Oscillator. The Oscillator has a stability of +/-5 ppm over a temperature range of -30° C to +70° C and an aging of <1ppm 1st year @ +40° C. This design features exceptional phase noise performance of -150 dBc/Hz @ 10 kHz offset. Supply Voltage is +12V DC +/-0.15V DC @ 75 mA typ. The reference oscillator has an output power level of +7 dBm +/- 3 dB and 2nd harmonic output of -25 dBc typical. The reference oscillator operates over a temperature range of -30°C to +70°C and is designed to meet a variety of MIL-STD-202 test conditions including Humidity, Shock, and Vibration.



Electrical Specifications

Description	Min	Typ	Max	Units
Output Frequency		100		MHz
Output Impedance		50		Ohms
Output Power	+4	+7	+10	dBm
Phase Noise @ 10Hz Offset		-90		dBc/Hz
Phase Noise @ 100Hz Offset		-105		dBc/Hz
Phase Noise @ 1kHz Offset		-130		dBc/Hz
Phase Noise @ 10kHz Offset		-150		dBc/Hz
2nd Harmonics		-25	-20	dBc
Spurious		-70	-65	dBc
Frequency Stability			±5	ppm
Supply Voltage (DC)		12		Vdc
Supply Current (DC)		75		mA

Features:

- 100 MHz Reference Oscillator
- -130 dBc/Hz @ 10kHz offset
- Pout = +7 dBm
- Harmonics = -25 dBc
- Designed to meet MIL-STD-202 Environmental Conditions
- SMT version available see FMXR1002

Applications:

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

Mechanical Specifications

Size	
Length	2 in [50.8 mm]
Width	1.5 in [38.1 mm]
Height	0.6 in [15.24 mm]
Weight	0.0892 lbs [40.46 g]
Body Material and Plating	Aluminum

Configuration

Design	Commercial
Reference Type	Internal
Package Style	Connectorized
Output Connector	SMA Female

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

Fairview Microwave
1130 Junction Dr. #100
Allen, TX 75013
Tel: 1-800-715-4396 / (972) 649-6678
Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

ESD Sensitivity

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

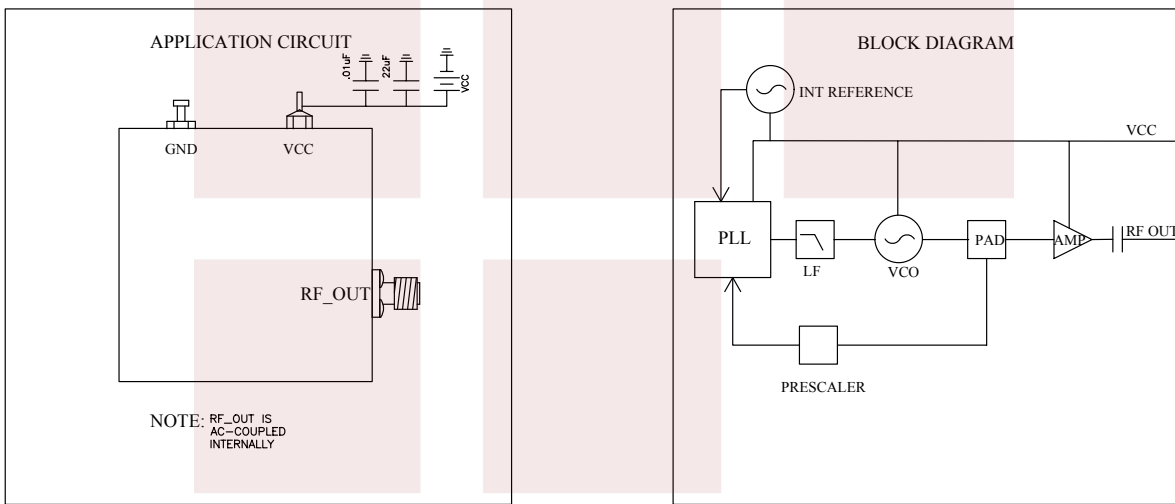


Compliance Certifications (see [product page](#) for current document)

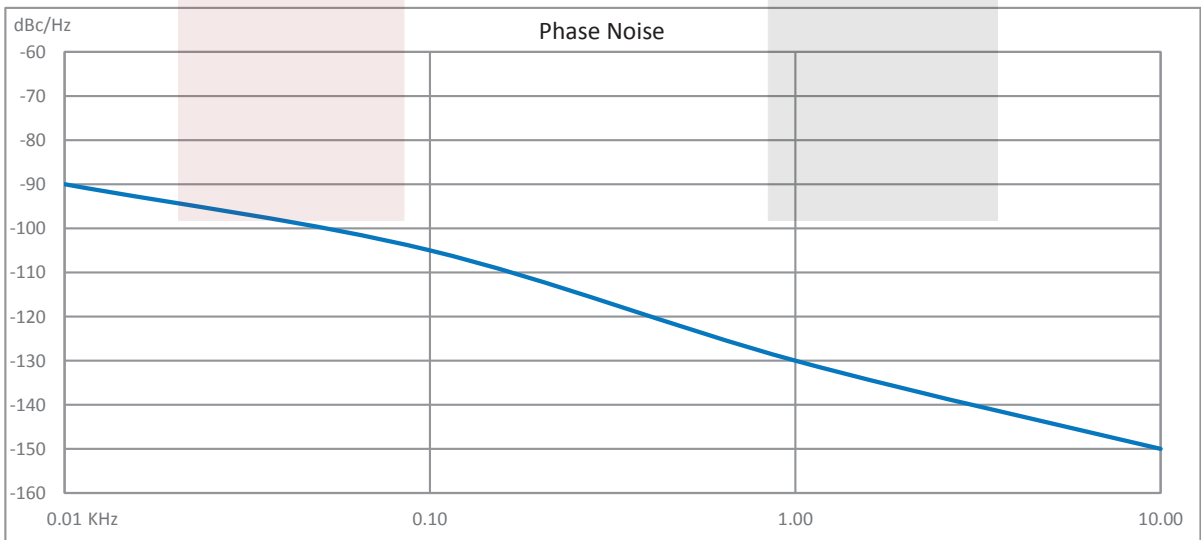
Plotted and Other Data

Notes:

Functional Block Diagram



Typical Performance Data



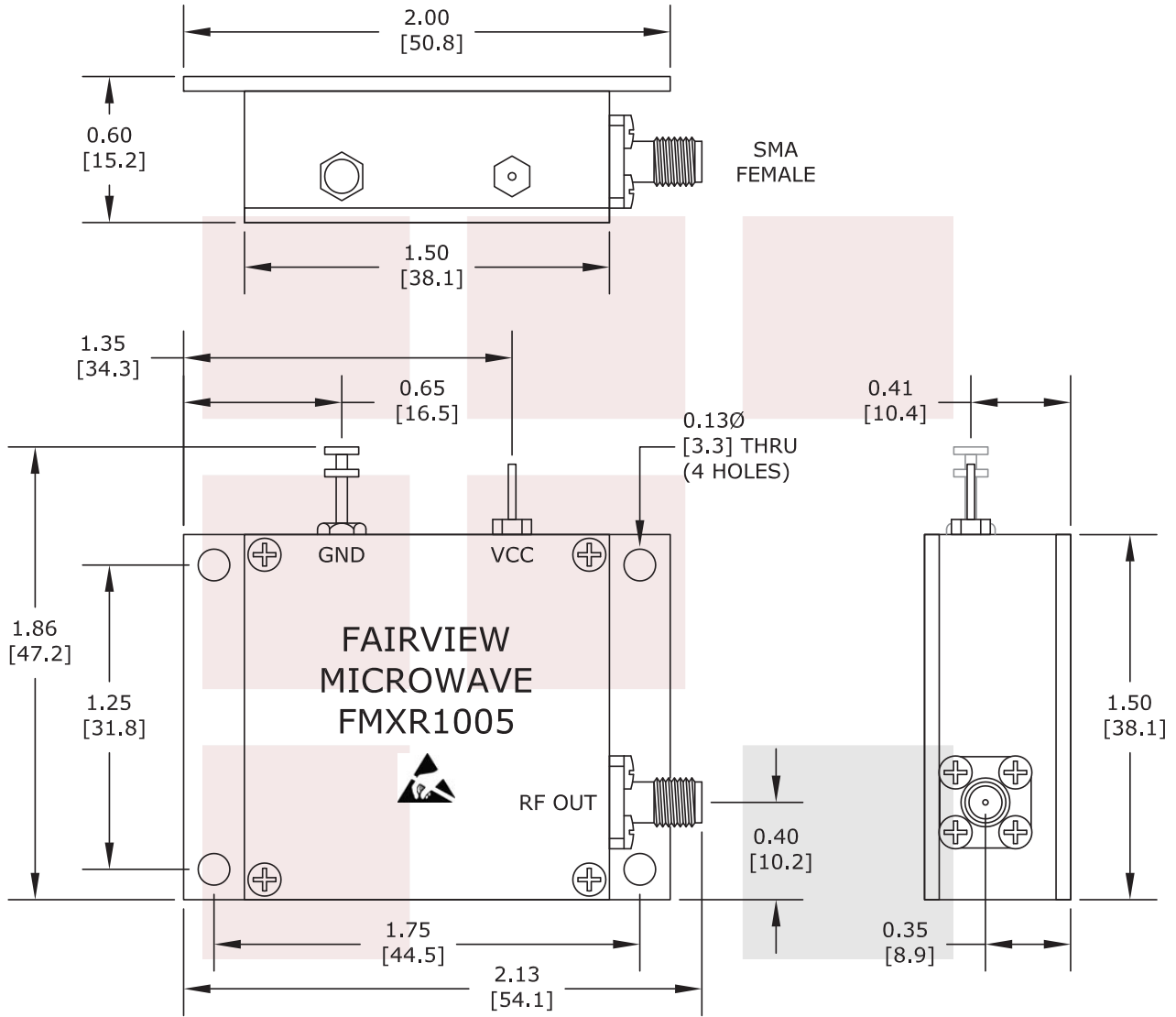
100 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -150 dBc/Hz and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [100 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -150 dBc/Hz and SMA FMXR1005](#)

URL: <https://www.fairviewmicrowave.com/100-mhz-free-running-reference-oscillator-internal-fmxr1005-p.aspx>

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NOTE: HOUSING IS GROUND.

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TITLE 100 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -150 dBc/Hz and SMA		DWG NO FMXR1005		CAGE CODE 3FKR5	
CAD FILE	061516	SHEET	SCALE	N/A	SIZE A 2233