

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

FMXR1003 is a 10 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		10		MHz
Output Impedance		50		Ohms
Output Power	+4	+7	+10	dBm
Phase Noise @ 10Hz Offset		-100		dBc/Hz
Phase Noise @ 100Hz Offset		-110		dBc/Hz
Phase Noise @ 1kHz Offset		-135		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:**

- 10 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 FMXR1000

**Applications:**

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

**Mechanical Specifications**

<b>Size</b>	
Length	2 in [50.8 mm]
Width	1.5 in [38.1 mm]
Height	0.6 in [15.24 mm]
Weight	0.085 lbs [38.56 g]
Body Material and Plating	Aluminum

**Configuration**

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

**Environmental Specifications**

<b>Temperature</b>	
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.

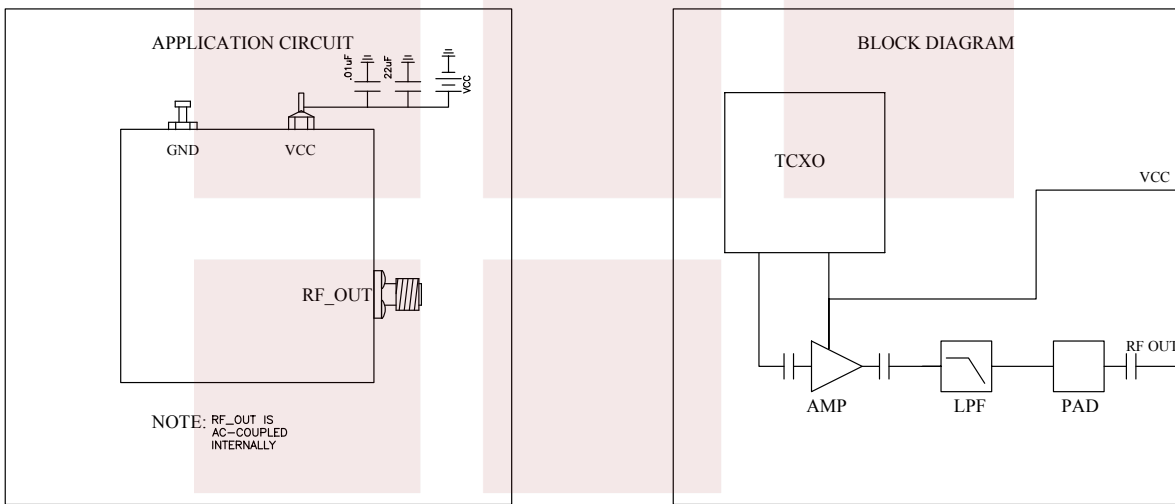


**Compliance Certifications** (see [product page](#) for current document)

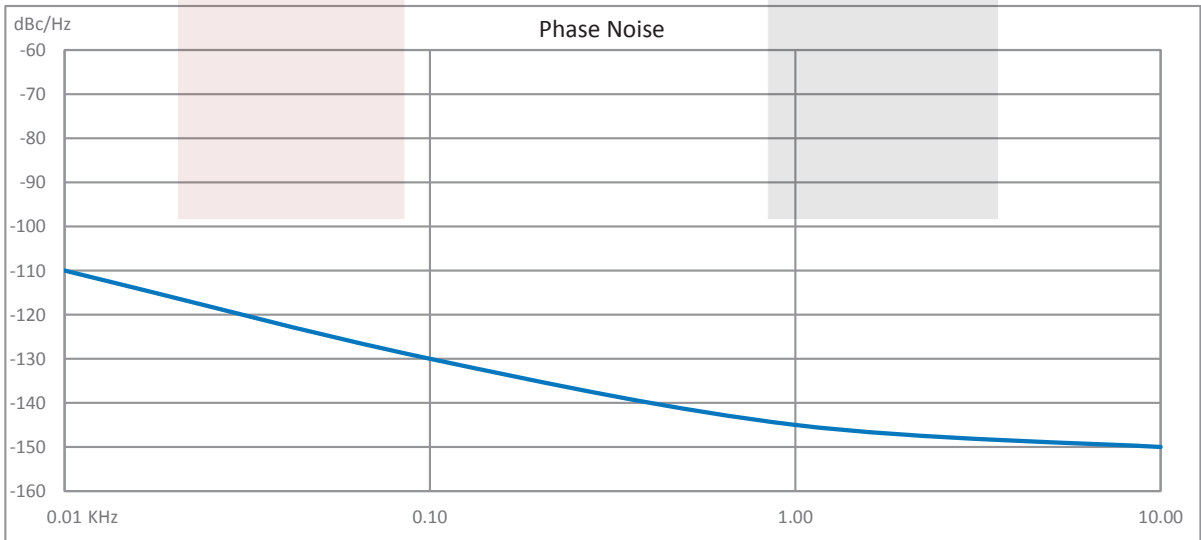
**Plotted and Other Data**

Notes:

**Functional Block Diagram**



**Typical Performance Data**



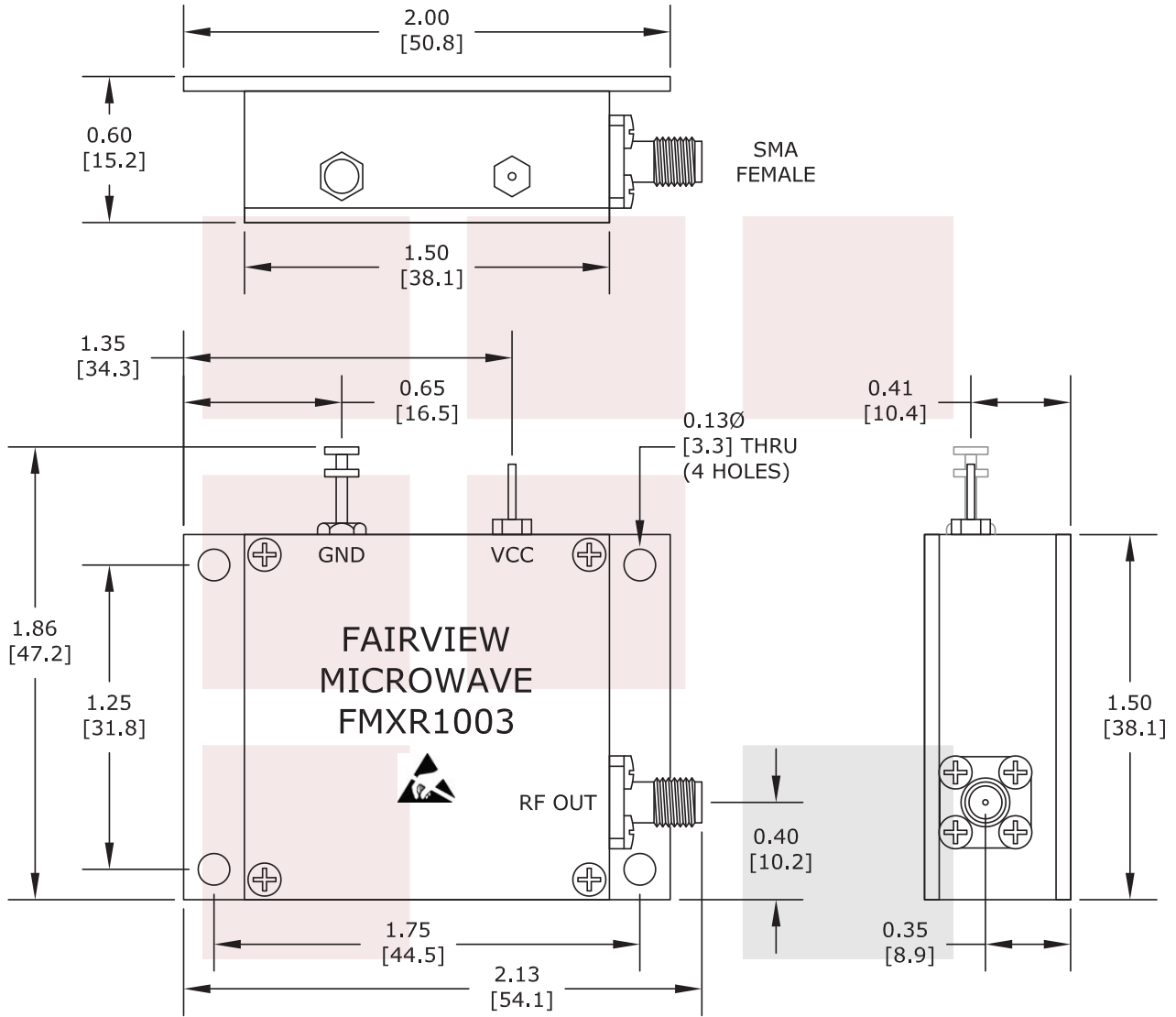
10 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -150 dBc/Hz and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is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

For additional information on this product, please click the following link: [10 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -150 dBc/Hz and SMA FMXR1003](#)

URL: <https://www.fairviewmicrowave.com/10-mhz-free-running-reference-oscillator-internal-fmxr1003-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.

<b>FAIRVIEW MICROWAVE INC.</b> 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 10 MHz Free Running Reference Oscillator, Internal Ref., Phase Noise -150 dBc/Hz and SMA		DWG NO FMXR1003		CAGE CODE 3FKR5	
CAD FILE	061516	SHEET	SCALE	N/A	SIZE A 2233