

50 MHz Phase Locked Crystal Oscillator, 10 MHz External Ref., Phase Noise -155 dBc/Hz and SMA

FMXP5002 is a 50 MHz Phase-Locked Crystal Oscillator with an external 10 MHz Reference Oscillator. This design features exceptional phase noise performance of -155 dBc/Hz @ 10 kHz offset. Supply Voltage is +5V DC @ 75 mA typ. The package is a connectorized module with Lock Detect and SMA connectors. The reference oscillator has an output power level of +7 dBm +/- 2 dB and 2nd harmonic output of -20 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		50		MHz
Output Impedance		50		Ohms
Output Power	+5	+7	+9	dBm
Phase Noise @ 10Hz Offset		-90	-85	dBc/Hz
Phase Noise @ 100Hz Offset		-105	-100	dBc/Hz
Phase Noise @ 1kHz Offset		-135	-130	dBc/Hz
Phase Noise @ 10kHz Offset		-155	-150	dBc/Hz
Reference Frequency		10		MHz
Reference Impedance		50		Ohms
Reference Power	+4	+7	+10	dBm
Ref. Phase Noise @ 10Hz Offset		-105		dBc/Hz
Ref. Phase Noise @ 100Hz Offset		-135		dBc/Hz
Ref. Phase Noise @ 1kHz Offset		-145		dBc/Hz
2nd Harmonics		-20	-15	dBc
Spurious		-70	-65	dBc
Lock Detect	5 VDC TTL, HIGH=LOCK			
Supply Voltage (DC) 1		12		Vdc
Supply Current (DC) 1		75	95	mA

Mechanical Specifications

Size	
Length	6.3 in [160.02 mm]
Width	5.65 in [143.51 mm]
Height	1.2 in [30.48 mm]
Weight	0.112 lbs [50.8 g]
Body Material and Plating	Aluminum

Configuration

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

Environmental Specifications

Temperature	
Operating Range	-30 to +70 deg C

Features:

- 50 MHz Phase-Locked Crystal Oscillator
- External 10 MHz Reference Oscillator
- -155 dBc/Hz @ 10kHz offset
- Pout = +7 dBm
- Harmonics = -20 dBc
- SMA connector
- Designed to meet MIL-STD-202 Environmental Conditions
- SMT version available see FMXP5000

Applications:

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

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Shock
Vibration
ESD Sensitivity

IAW MIL-STD-202, Method 213, Condition A
IAW MIL-STD-202, Method 204, Condition A
ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.

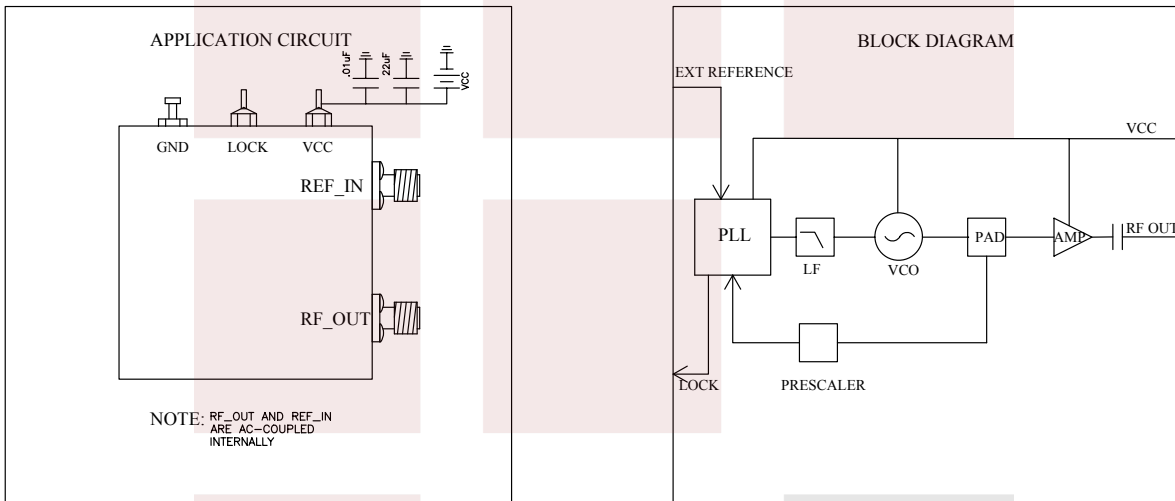


Compliance Certifications (see [product page](#) for current document)

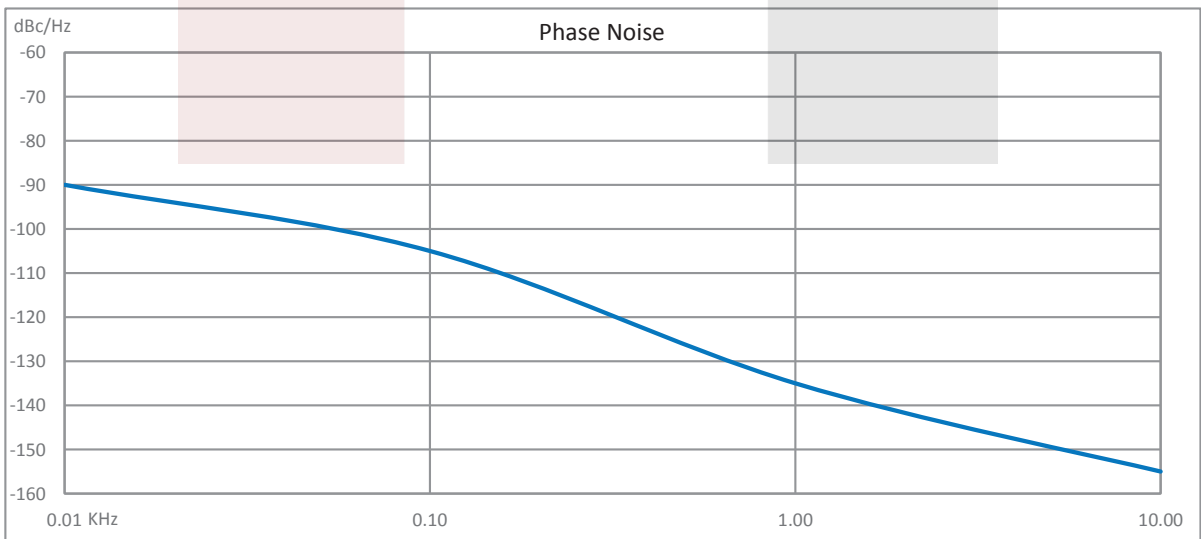
Plotted and Other Data

Notes:

Functional Block Diagram



Typical Performance Data



50 MHz Phase Locked Crystal Oscillator, 10 MHz External Ref., Phase Noise -155 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.

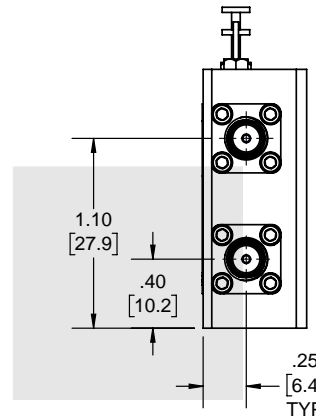
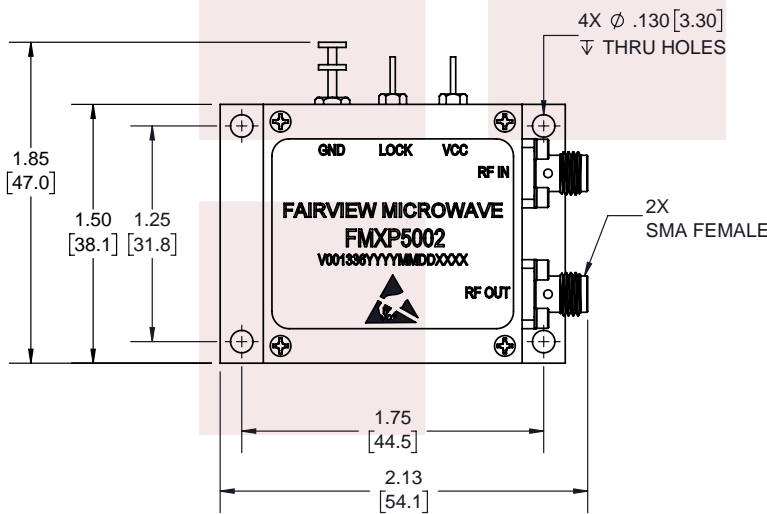
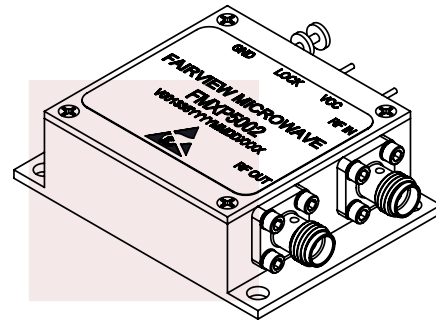
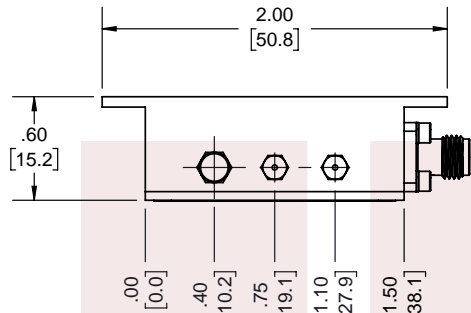
For additional information on this product, please click the following link: [50 MHz Phase Locked Crystal Oscillator, 10 MHz External Ref., Phase Noise -155 dBc/Hz and SMA FMXP5002](#)

URL: <https://www.fairviewmicrowave.com/50-mhz-phase-locked-crystal-oscillator-external-fmxc5002-p.aspx>

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	PCR FMXP5003	4/7/2020	T.GALLA



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TITLE
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UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES:		CABLE LENGTH (L) TOLERANCES:	
.X = ±.2 [5.08]	FRACTIONS	L ≤ 12 [305] = +1 [25] / -0	
.XX = ±.02 [.51]	± 1/32	12 [305] < L ≤ 60 [1524] = +2 [51] / -0	
.XXX = ±.005 [.13]	ANGLES ± 1°	60 [1524] < L ≤ 120 [3048] = +4 [102] / -0	
		120 [3048] < L ≤ 300 [7620] = +6 [152] / -0	
		300 [7620] < L = +5%L / -0	

THIRD-ANGLE PROJECTION

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SHEET 1 OF 1

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE N/A

SIZE A	CAGE CODE 3FKR5	DRAWN BY K.DANG	ITEM NO. FMXP5002	REV A
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T-Rev.D