



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

Phase Locked Oscillators Technical Data Sheet

PE19XC7008

Features

- 4,000 MHz Phase-Locked Oscillator
- External 100 MHz Reference Oscillator
- -110 dBc/Hz @ 10kHz offset
- Pout +7 dBm
- Harmonics -20 dBc
- Designed to meet MIL-STD-202 Environmental Conditions

Applications

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

Description

The PE19XC7008 is a 4,000 MHz Phase-Locked Oscillator with an external 100 MHz Reference Oscillator. This design features exceptional phase noise performance of -110 dBc/Hz @ 10 kHz offset. Supply Voltage is +12V DC. 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 reference oscillator has an output power level of +7 dBm +/- 3 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 MIL-STD-202 test conditions for Vibration and Shock.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Output Frequency		4		GHz
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
Reference Input Power	+4	+7	+10	dBm
Reference Phase Noise @ 10Hz Offset		-95		dBc/Hz
Reference Phase Noise @ 100Hz Offset		-105		dBc/Hz
Reference 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

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [4 GHz Phase Locked Oscillator, 100 MHz External Ref., Phase Noise -110 dBc/Hz, SMA PE19XC7008](#)

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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	0.107 lbs [48.53 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
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:

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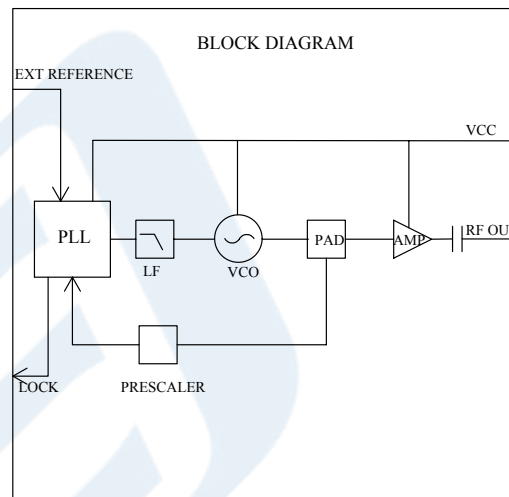
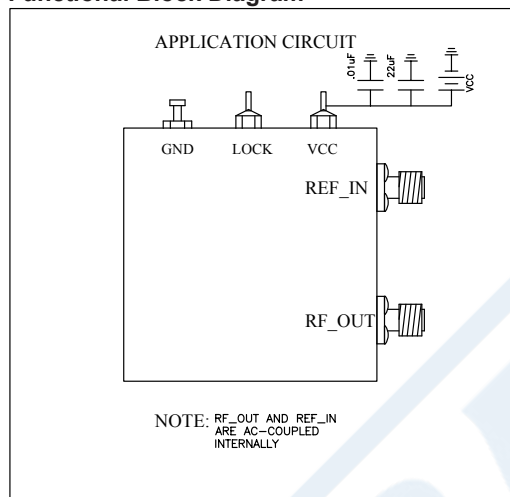
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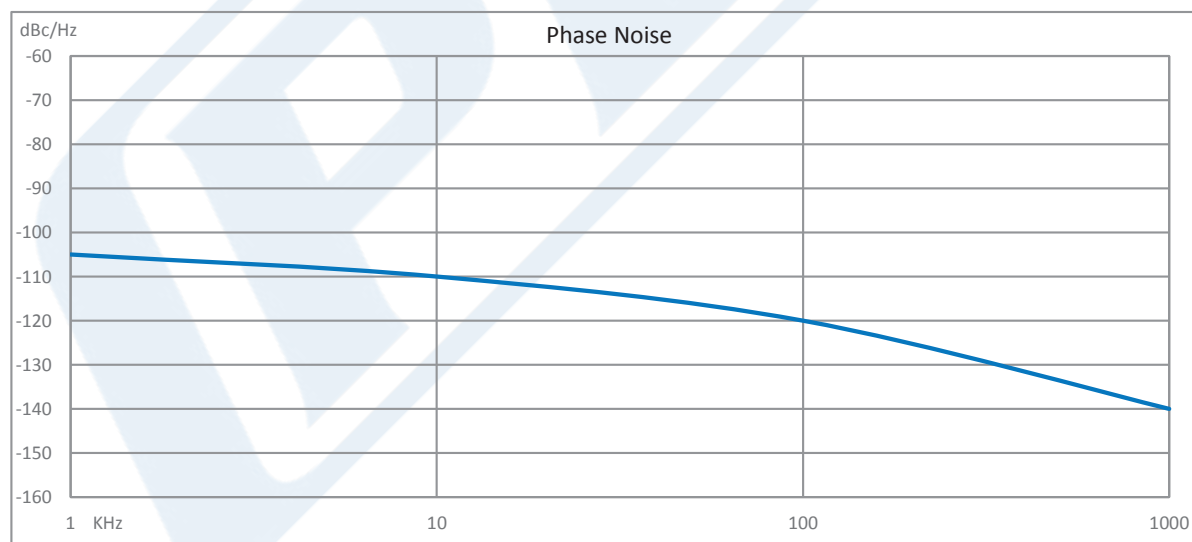
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Functional Block Diagram



Typical Performance Data



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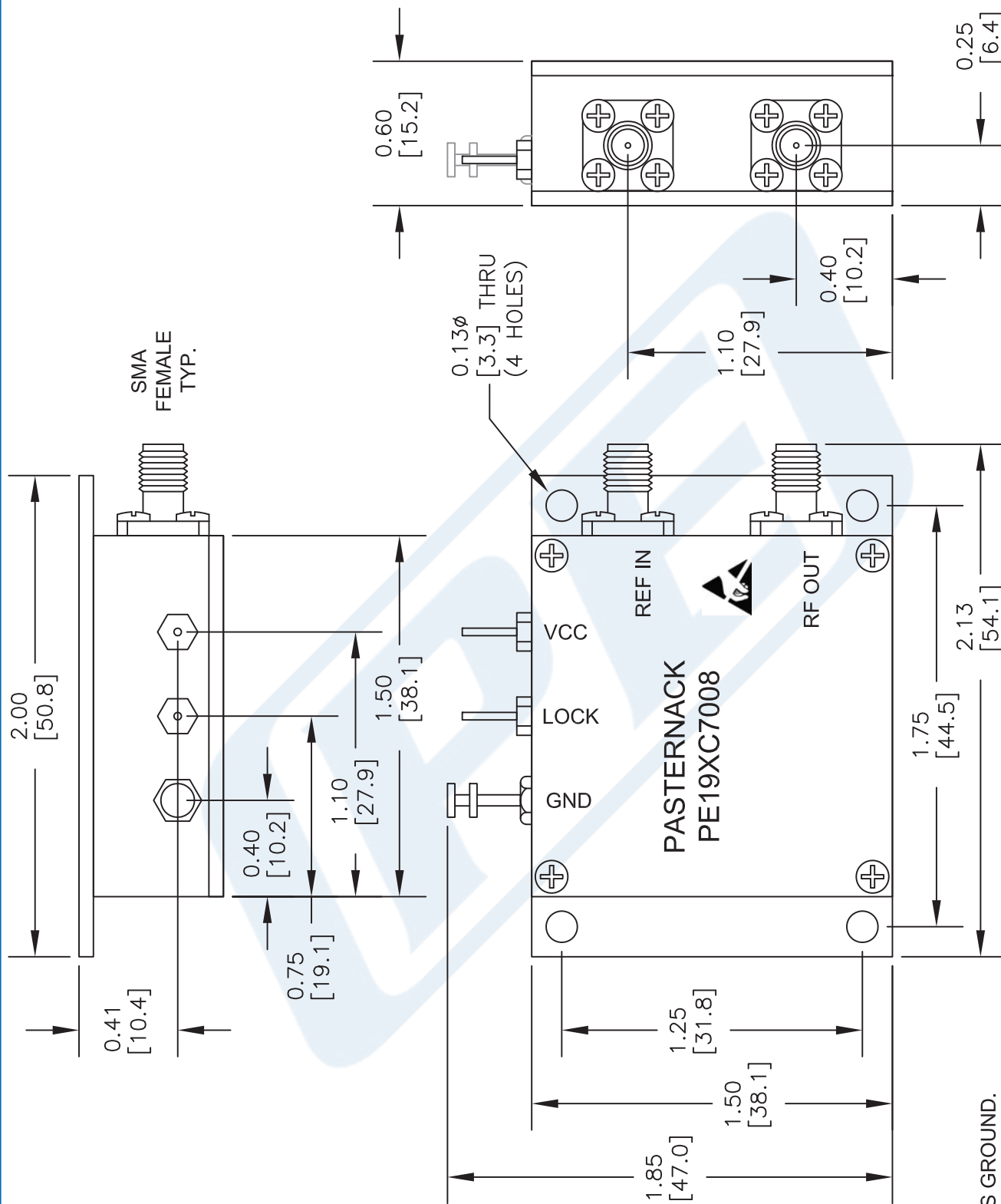
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PE19XC7008 CAD Drawing

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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].

DWG TITLE
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PE PASTERNAK®
THE ENGINEER'S RF SOURCE
Pasternack Enterprises, Inc.
P.O. Box 16759 | Irvine | CA | 92623
Phone: (949) 261-1920 | Fax: (949) 261-7451
Website: www.pasternack.com | E-Mail: sales@pasternack.com

FSCM NO. 53919

CAD FILE 011216

SCALE N/A

SIZE A

2233