



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

### Phase Locked Oscillators Technical Data Sheet

PE19XC7007

#### Features

- Phase Locked Oscillator (PLO) Module
- 2,000 MHz Fixed Frequency
- 100 MHz External Reference Frequency
- Output Power: +7 dBm typical
- Low Phase Noise: -110 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

- Local Oscillator
- Microwave Radio
- Communication and Sensor Systems
- Test Instrumentation
- Telecom Infrastructure
- Electronic Warfare
- Electronic Countermeasures
- Space Systems

#### Description

The PE19XC7007 is a highly reliable Phase Locked Oscillator (PLO) module that operates at a fixed frequency of 2,000 MHz. The versatile low noise signal source supports a 100 MHz External Reference for design flexibility. Impressive performance includes an output power level of +7 dBm typical and low phase noise performance of -110 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	Minimum	Typical	Maximum	Units
Output Frequency		2		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

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [2 GHz Phase Locked Oscillator, 100 MHz External Ref., Phase Noise -110 dBc/Hz, SMA PE19XC7007](#)



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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	0.105 lbs [47.63 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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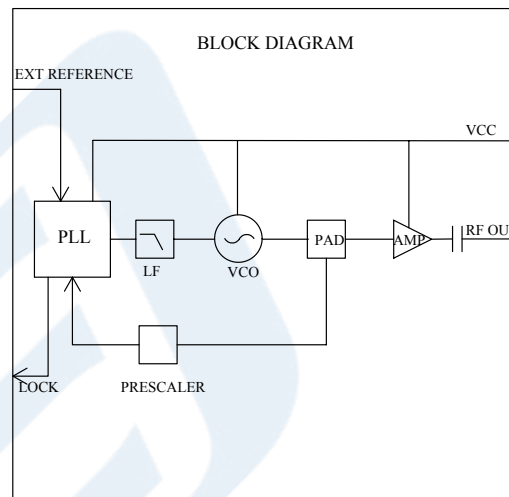
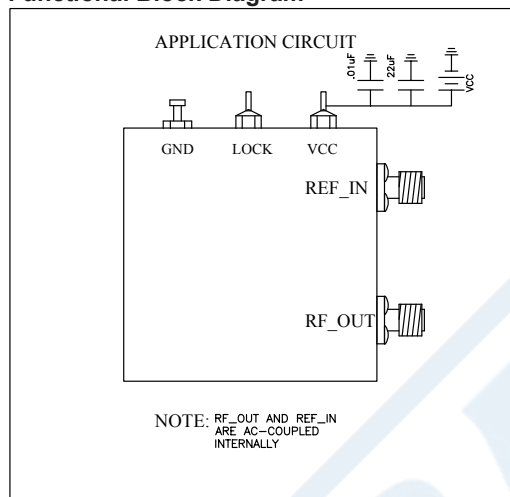


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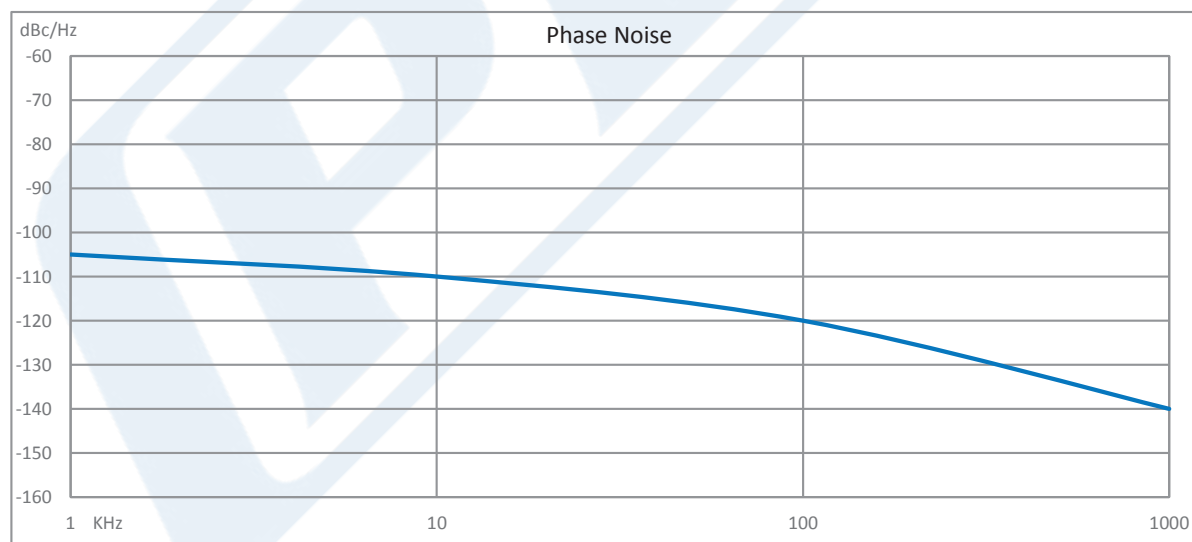
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### Functional Block Diagram



### Typical Performance Data



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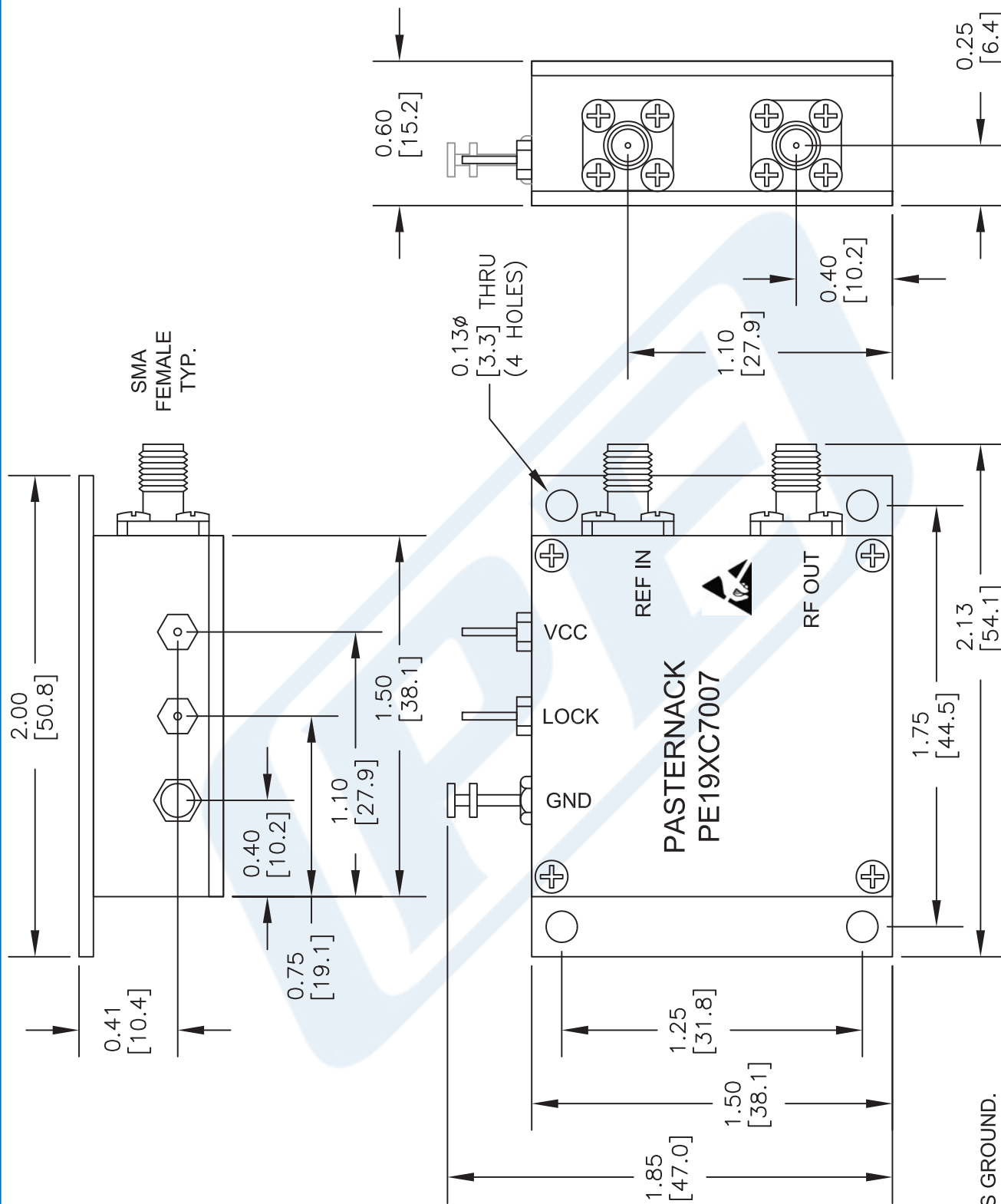
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# PE19XC7007 CAD Drawing

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NOTE: HOUSING IS GROUND.

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

**PE19XC7007**

**PE PASTERNAK**  
THE ENGINEER'S RF SOURCE

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SCALE N/A

SIZE A

2233