



## 500 MHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -110 dBc/Hz, SMA

### Phase Locked Oscillators Technical Data Sheet

PE19XC7000

#### Features

- Phase Locked Oscillator (PLO) Module
- 500 MHz Fixed Frequency
- 10 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 PE19XC7000 is a highly reliable Phase Locked Oscillator (PLO) module that operates at a fixed frequency of 500 MHz. This versatile low noise signal source supports a 10 MHz External Reference for design flexibility. Impressive performance includes an output power level of +7 dBm typical and low phase noise 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 is 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		500		MHz
Output Impedance		50		Ohms
Output Power	+5	+7	+9	dBm
Phase Noise @ 1kHz Offset		-100	-95	dBc/Hz
Phase Noise @ 10kHz Offset		-110	-105	dBc/Hz
Phase Noise @ 100kHz Offset		-130	-125	dBc/Hz
Phase Noise @ 1MHz Offset		-150	-145	dBc/Hz
Reference Frequency		10		MHz
Reference Impedance		50		Ohms
Reference Input Power	+4	+7	+10	dBm
Reference Phase Noise @ 10Hz Offset		-110		dBc/Hz
Reference Phase Noise @ 100Hz Offset		-130		dBc/Hz
Reference Phase Noise @ 1kHz Offset		-145		dBc/Hz
2nd Harmonics		-35	-30	dBc

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [500 MHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -110 dBc/Hz, SMA PE19XC7000](#)



500 MHz Phase Locked Oscillator, 10 MHz External  
Ref., Phase Noise -110 dBc/Hz, SMA

## Phase Locked Oscillators Technical Data Sheet

PE19XC7000

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	0.103 lbs [46.72 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:

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [500 MHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -110 dBc/Hz, SMA PE19XC7000](#)

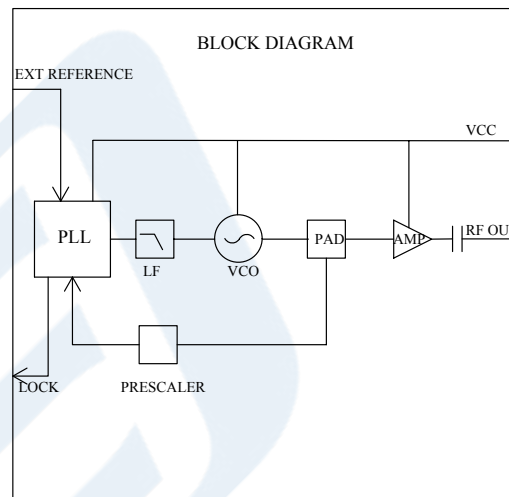
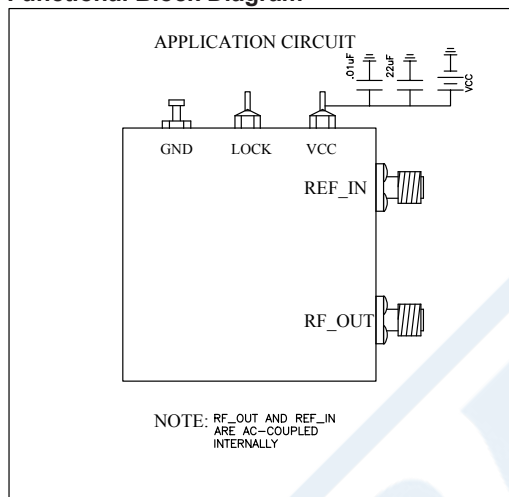


500 MHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -110 dBc/Hz, SMA

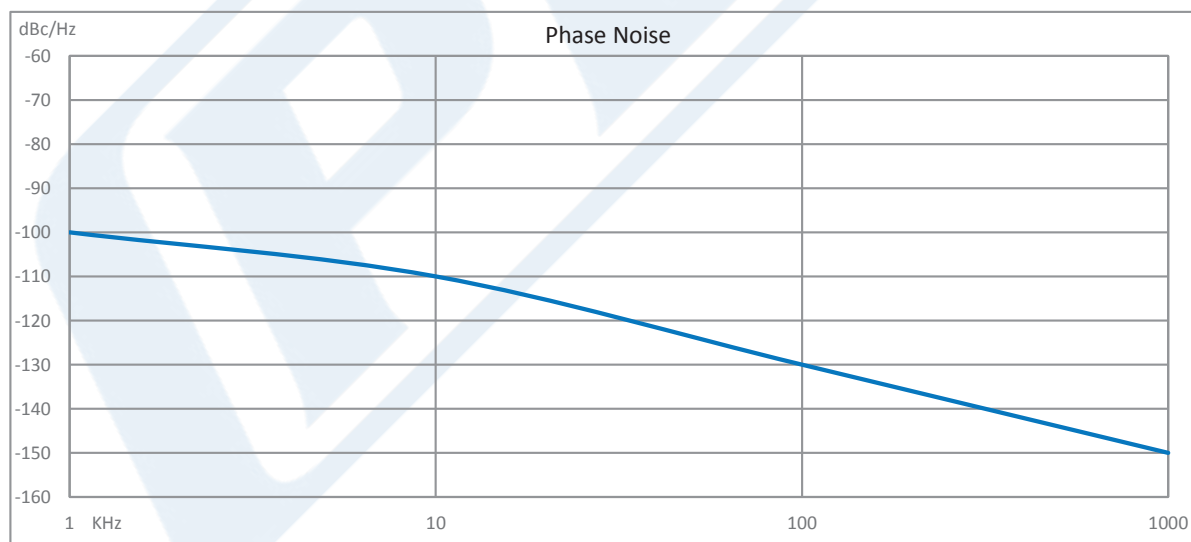
## Phase Locked Oscillators Technical Data Sheet

PE19XC7000

### Functional Block Diagram



### Typical Performance Data



Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [500 MHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -110 dBc/Hz, SMA PE19XC7000](#)



500 MHz Phase Locked Oscillator, 10 MHz External  
Ref., Phase Noise -110 dBc/Hz, SMA

## Phase Locked Oscillators Technical Data Sheet

PE19XC7000

500 MHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -110 dBc/Hz, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

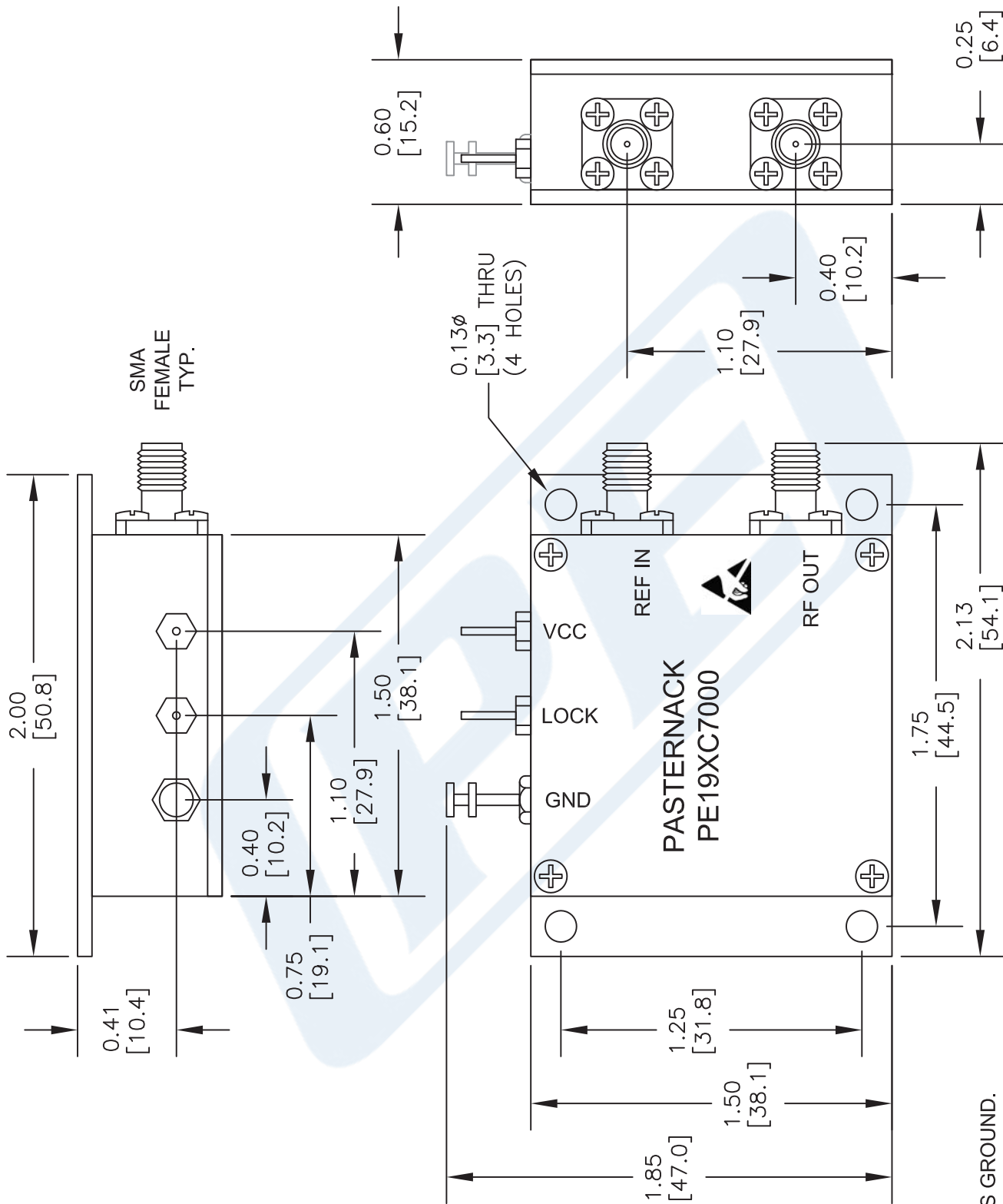
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [500 MHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -110 dBc/Hz, SMA PE19XC7000](https://www.pasternack.com/500-mhz-phase-locked-oscillator-external-pe19xc7000-p.aspx)

URL: <https://www.pasternack.com/500-mhz-phase-locked-oscillator-external-pe19xc7000-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. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

# PE19XC7000 CAD Drawing

500 MHz Phase Locked Oscillator, 10 MHz External Ref., Phase Noise -110 dBc/Hz, SMA



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  
**PE19XC7000**

**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