



100 MHz Phase Locked Crystal Oscillator, 10 MHz
External Ref., Phase Noise -150 dBc/Hz, SMA

Phase Locked Crystal Oscillators Technical Data

PE19XP5003

Features

- 100 MHz Phase-Locked Crystal Oscillator
- External 10 MHz Reference Oscillator
- -150 dBc/Hz @ 10kHz offset
- Pout = +7 dBm
- Harmonics = -20 dBc
- SMA Connector
- Designed to meet MIL-STD-202 Environmental Conditions
- SMT version available see PE19XP5001

Applications

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

Description

The PE19XP5003 is a 100 MHz Phase-Locked Crystal Oscillator with an external 10 MHz Reference Oscillator. This design features exceptional phase noise performance of -150 dBc/Hz @ 10 kHz offset. Supply Voltage is +12V 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 MIL-STD-202 test conditions for Vibration and Shock.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Output Frequency		100		MHz
Output Impedance		50		Ohms
Output Power	+5	+7	+9	dBm
Phase Noise @ 10Hz Offset		-85	-80	dBc/Hz
Phase Noise @ 100Hz Offset		-100	-95	dBc/Hz
Phase Noise @ 1kHz Offset		-130	-125	dBc/Hz
Phase Noise @ 10kHz Offset		-150	-145	dBc/Hz
Reference Frequency		10		MHz
Reference Impedance		50		Ohms
Reference Power	+4	+7	+10	dBm
Reference Phase Noise @ 10Hz Offset		-105		dBc/Hz
Reference Phase Noise @ 100Hz Offset		-135		dBc/Hz
Reference 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

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [100 MHz Phase Locked Crystal Oscillator, 10 MHz External Ref., Phase Noise -150 dBc/Hz, SMA PE19XP5003](#)



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Supply Current (DC) 1

75

95

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

0.102 lbs [46.27 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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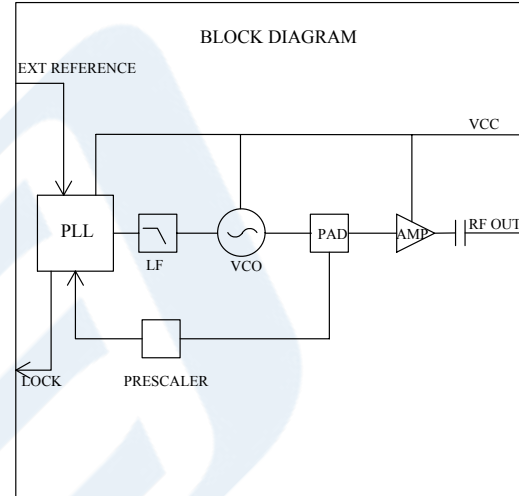
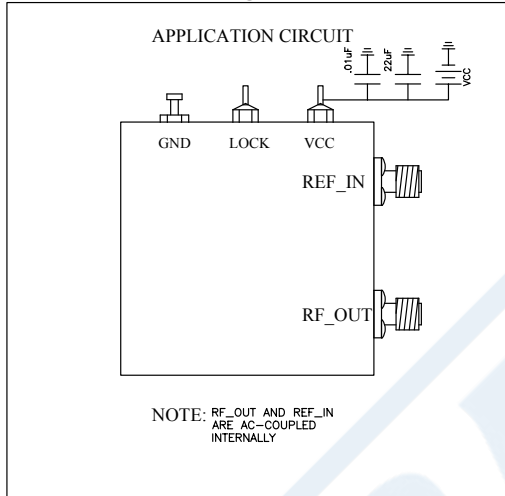


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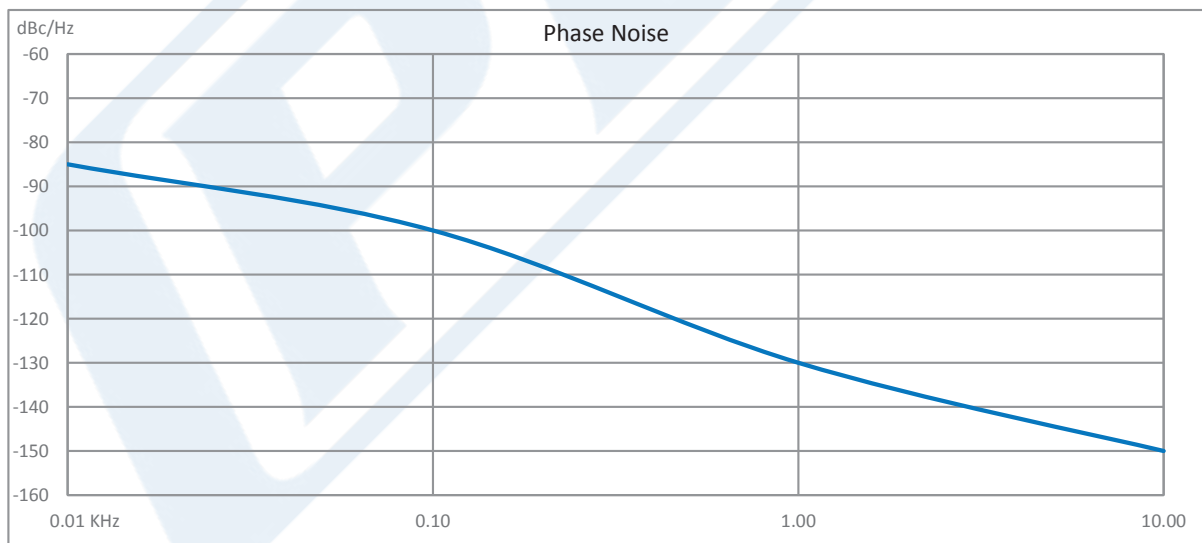
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Functional Block Diagram



Typical Performance Data



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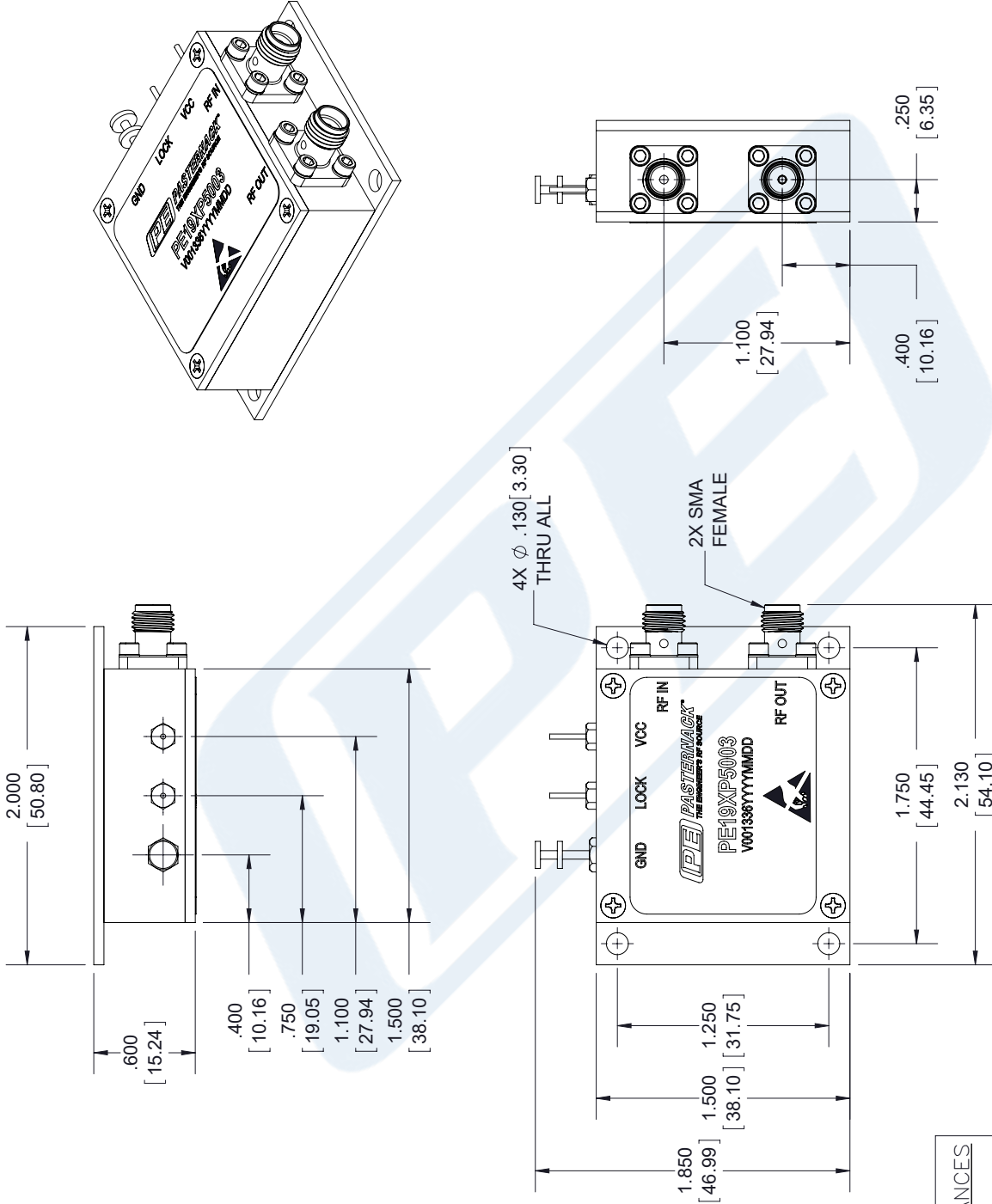
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PE19XP5003 CAD Drawing

100 MHz Phase Locked Crystal Oscillator, 10 MHz External
Ref., Phase Noise -150 dBc/Hz, SMA



STANDARD TOLERANCES
.X ±0.2
.XX ±0.01
.XXX ±0.005

*STANDARD TOLERANCES APPLY
ONLY TO DIMENSIONS IN INCHES



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DWG TITLE

PE19XP5003

CAGE CODE 53919

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].

CAD FILE 082817

SCALE N/A

SIZE A

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