



Voltage Controlled Oscillator, 900 MHz to 960 MHz, Pout +5.5 dBm, Phase Noise of -110 dBc/Hz, 0.5V to 4.0V Tuning Range, SMA

Voltage Control Oscillators Technical Data Sheet

PE1V31019

Features

- Voltage Controlled Oscillator
- 900 MHz to 960 MHz
- 0.5V to 4.0V Tuning Voltage
- Pout: +5.5 dBm
- Phase Noise: -110 dBc/Hz
- 2nd Harmonic Suppression: -15 dBc typ
- Tuning Sensitivity: 37 MHz/V
- +12 Volt DC Bias
- SMA Female Connectors
- -40°C to +85°C Operating Temperature
- 50 Ohm Design
- Internal Voltage Regulation
- Reverse DC Protection
- Rugged Package Design meets Mil-STD-202 Test Conditions

Applications

- Phase Locked Loop
- Function Generators
- Frequency Synthesizers
- Receivers
- Electronic Jamming Equipment
- Local Oscillators
- Wireless Communications
- SATCOM
- Optical Communications
- Military Electronic Systems
- Medical Equipment
- Test & Measurement

Description

The PE1V31019 is highly reliable low noise Voltage Controlled Oscillator (VCO) that operates across 900 MHz to 960 MHz with a tuning voltage range from 0.5V to 4.0V. Impressive typical performance includes generated output power of +5.5 dBm, 2nd Harmonic Suppression of -15 dBc, phase noise of -110 dBc/Hz @ 10 KHz offset, and tuning sensitivity of 37 MHz/V. The design incorporates internal voltage regulation and reverse DC protection, with a bias voltage range from +9V to +15V. The rugged and compact coaxial package assembly supports SMA female connectors, RFI and ground pins. The VCO has an operational temperature range of -40°C to +85°C and is designed to meet a variety of MIL-STD-202 test conditions including shock, vibration, altitude, and humidity.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	900		960	MHz
Tuning Voltage	0.5		4	Vdc
Supply Voltage (DC)	9	12	15	Vdc
Supply Current (DC)		25		mA
Phase Noise @ 10kHz Offset		-110		dBc/Hz
Output Power	+3	+5.5	+8	dBm
Tuning Sensitivity (Kvco)		37		MHz/V
Pulling (pk-pk)			5	MHz
Load Impedance		50		Ohms
2nd Harmonics		-15		dBc

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Voltage Controlled Oscillator, 900 MHz to 960 MHz, Pout +5.5 dBm, Phase Noise of -110 dBc/Hz, 0.5V to 4.0V Tuning Range, SMA PE1V31019](#)



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Mechanical Specifications

Size

Length 1.25 in [31.75 mm]

Width 1.25 in [31.75 mm]

Height 0.563 in [14.3 mm]

Weight 0.1 lbs [45.36 g]

Design Commercial

Connector Option Standard

Output Connector SMA Female

Environmental Specifications

Temperature

Operating Range -40 to +85 deg C

Storage Range -55 to +100 deg C

Humidity

MIL-STD-202, Method 103B, Condition B

Shock

MIL-STD-202F, Method 213B, Condition B

Vibration

MIL-STD-202F, Method 204D, Condition B

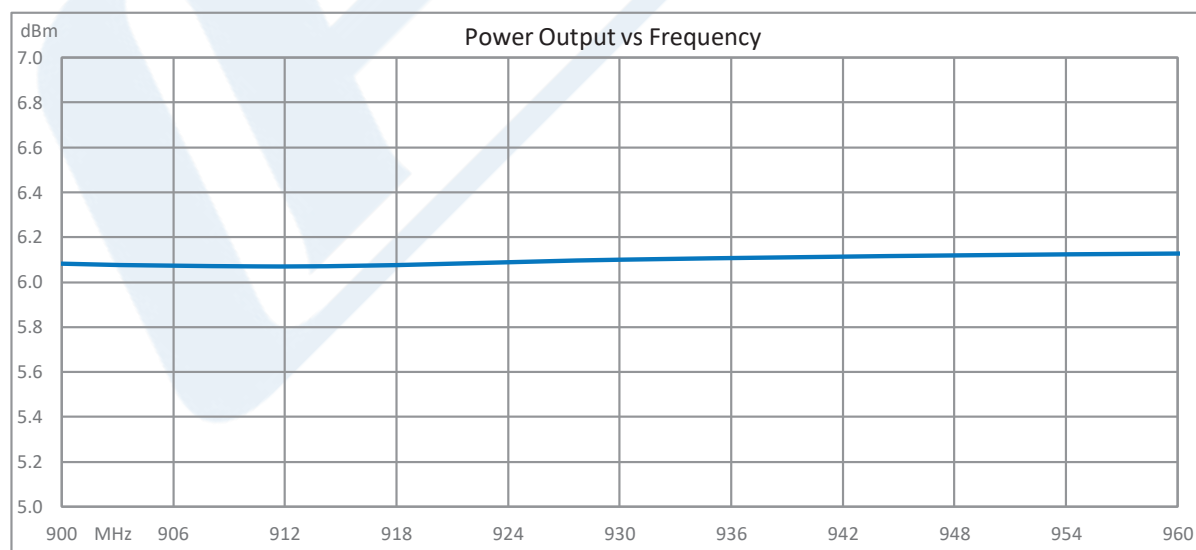
Altitude

MIL-STD-202F, Method 105C, Condition B

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

Plotted and Other Data

Typical Performance Data



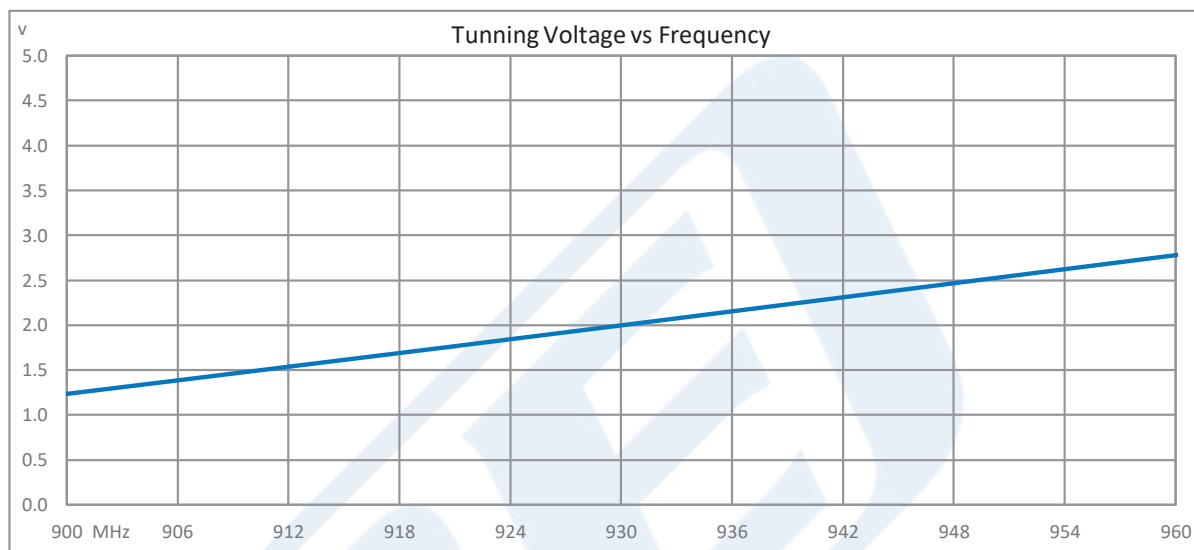
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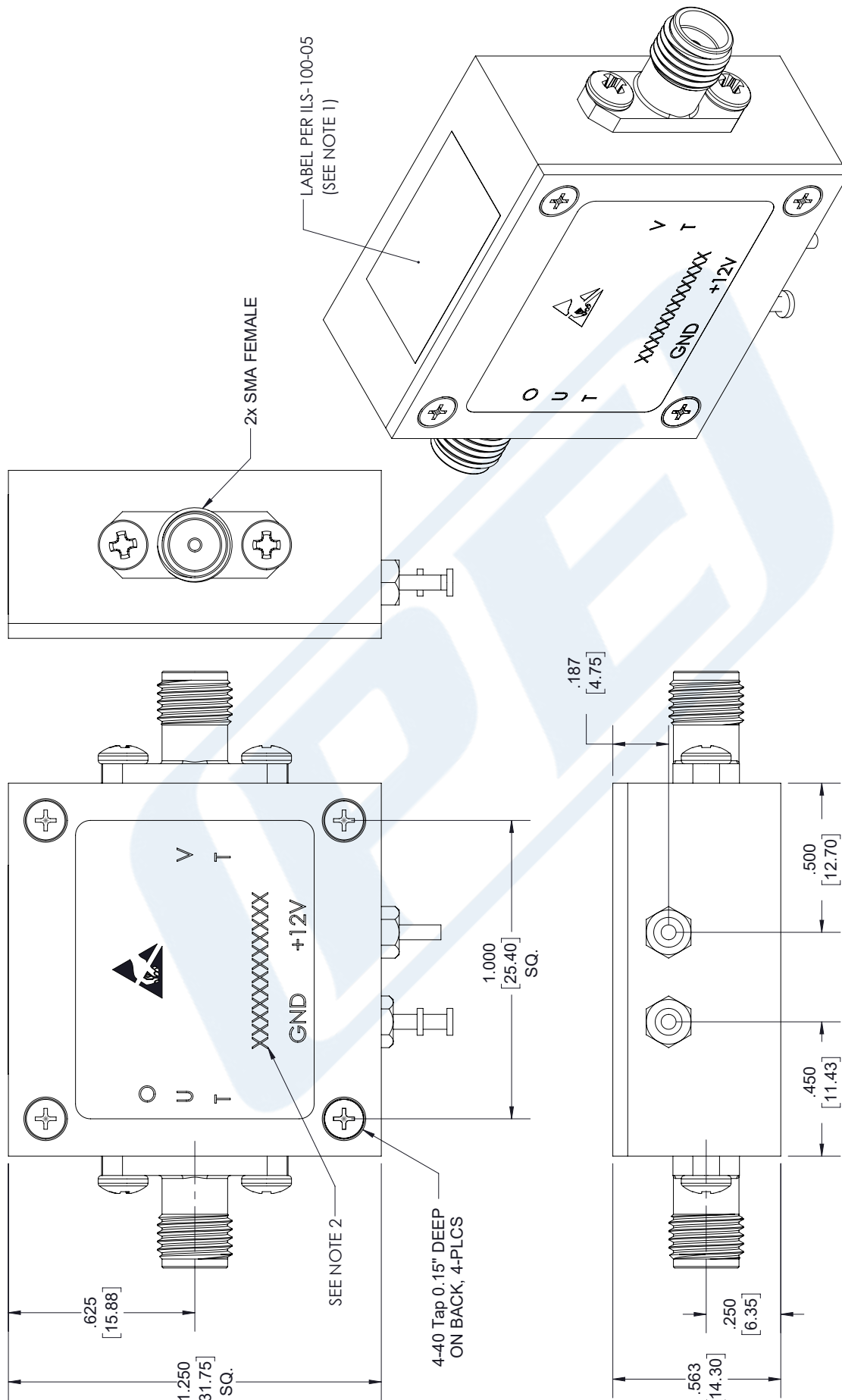
URL: <https://www.pasternack.com/voltage-controlled-oscillator-vco-960-mhz-pe1v31019-p.aspx>

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.

PE1V31019 CAD Drawing

Voltage Controlled Oscillator, 900 MHz to 960 MHz, Pout +5.5 dBm,
Phase Noise of -110 dBc/Hz, 0.5V to 4.0V Tuning Range, SMA

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	03-01-2021	TGALLA



THIRD-ANGLE PROJECTION

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SHEET 1 OF 1

SCALE N/A

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

TOLERANCES:

	FRACTIONS	ANGLES
.X = ± .2	[.08]	± 1/32
.XX = ± .02	[.51]	± 1/32
.XXX = ± .005	[.13]	± 1/32

CABLE LENGTH (L) TOLERANCES:

L ≤ 12 [305]	± .125 [3.18]
12 [305] < L ≤ 60 [1524]	± .25 [6.35]
60 [1524] < L ≤ 120 [3048]	± .50 [12.70]
120 [3048] < L ≤ 300 [7620]	± 1.00 [25.40]
300 [7620] < L	± 5% [127.0]

ALL DIMENSIONS SHOWN
ARE FOR REFERENCE ONLY.

NOTES:

1. LABEL PER ILS-100-05. FOR INTERNAL REFERENCE ONLY.
LABEL LOCATION SHOULD BE SAME AS SHOWN.
2. SERIAL NUMBER AND DATE CODE ARE COMBINED. EX: 202008280001.

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