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Voltage Controlled Oscillator (VCO) From 50 MHz to 100 MHz, Phase Noise of -115 dBc/Hz and SMA

Voltage Control Oscillators Technical Data Sheet PE1V31005

Features

- 50 to 100 MHz Bandwidth
- -115 dBc/Hz typ @ 10kHz offset
- Tuning Voltage 0.5V to 20V
- Pout = +12.0 dBm typ
- Harmonics = -12.0 dBc typ
- RoHS Compliant Assembly
- Compact Size Rugged Metal Coaxial package
- Field Replaceable SMA Female Connector
- 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 PE1V31005 is a High Reliability Low Noise Voltage Controlled Oscillator (VCO) which covers a 50 MHz to 100 MHz frequency band with a voltage tuning range from 0.5V to 20V. This design features exceptional phase noise performance of -115 dBc/Hz typ @ 10 kHz offset. Supply Voltage is +15V with a generated output power level of +12.0 dBm typ and 2nd harmonic output of -12.0 dBc typical. The assembly is RoHS compliant and available in a compact sized rugged metal housing which supports a field replaceable SMA female connector, RFI Voltage and ground pins. The VCO operates over a temperature range of -40°C to +85°C and is designed to meet a variety of MIL-STD-202 test conditions including Humidity, Shock, and Vibration.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	50		100	MHz
Tuning Voltage	0.5		20	Vdc
Supply Voltage (DC)	14	15	16	Vdc
Supply Current (DC)		18	22	mA
Phase Noise @ 1kHz Offset		-88	-86	dBc/Hz
Phase Noise @ 10kHz Offset		-115	-113	dBc/Hz
Phase Noise @ 100kHz Offset		-135	-133	dBc/Hz
Output Power	+10	+12	+14	dBm
Tuning Sensitivity (Kvco)	2		5	MHz/V
Pushing		0.05	0.1	MHz/V
Pulling (pk-pk)		100	200	KHz
Tuning Port Capacitance		82		pF
Load Impedance		50		Ohms
2nd Harmonics		-12	-10	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 (VCO) From 50 MHz to 100 MHz, Phase Noise of -115 dBc/Hz and SMA PE1V31005

Pasternack Enterprises, Inc. • P.O. Box 16759, Irvine, CA 92623
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Electrical Specification Notes:
Pulling @ 1.5:1 VSWR

Mechanical Specifications

Size

Length	0.95 in [24.13 mm]
Width	0.95 in [24.13 mm]
Height	0.285 in [7.24 mm]
Weight	0.027 lbs [12.25 g]
Body Material and Plating	Aluminum
Design	Commercial
Output Connector	SMA Female

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-55 to +125 deg C
Humidity	MIL-STD-202, Method 103, 90% RH, +65 C
Shock	MIL-STD-202, Method 213I
Vibration	MIL-STD-202, Method 204D
Temperature Cycle	MIL-STD-202, Method 107B
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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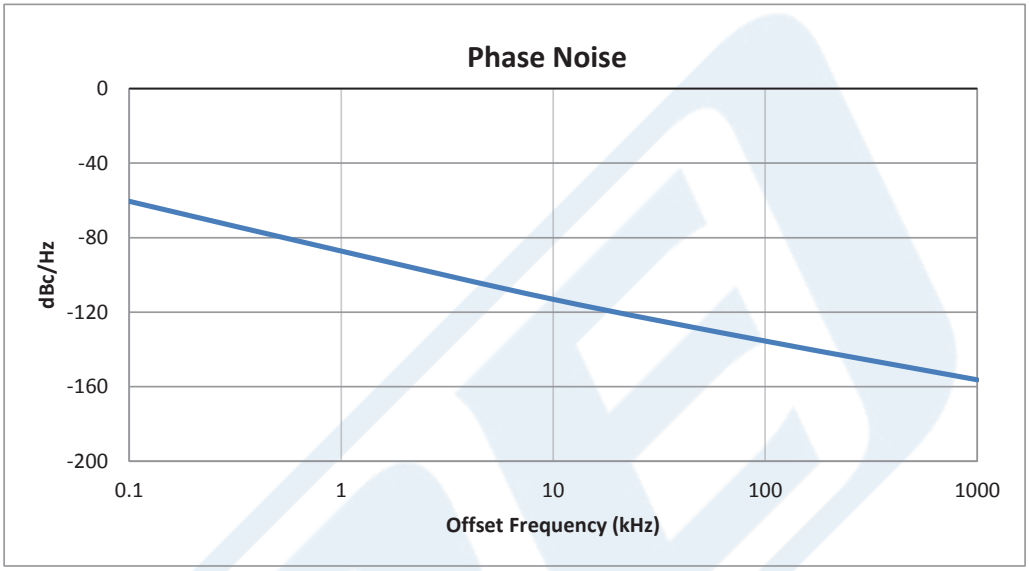
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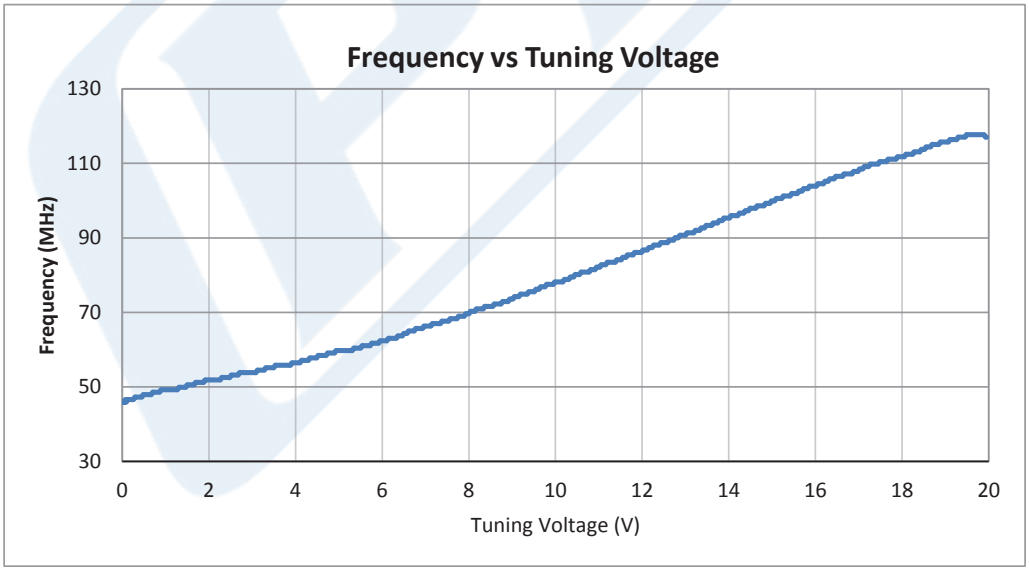


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Typical Performance Data





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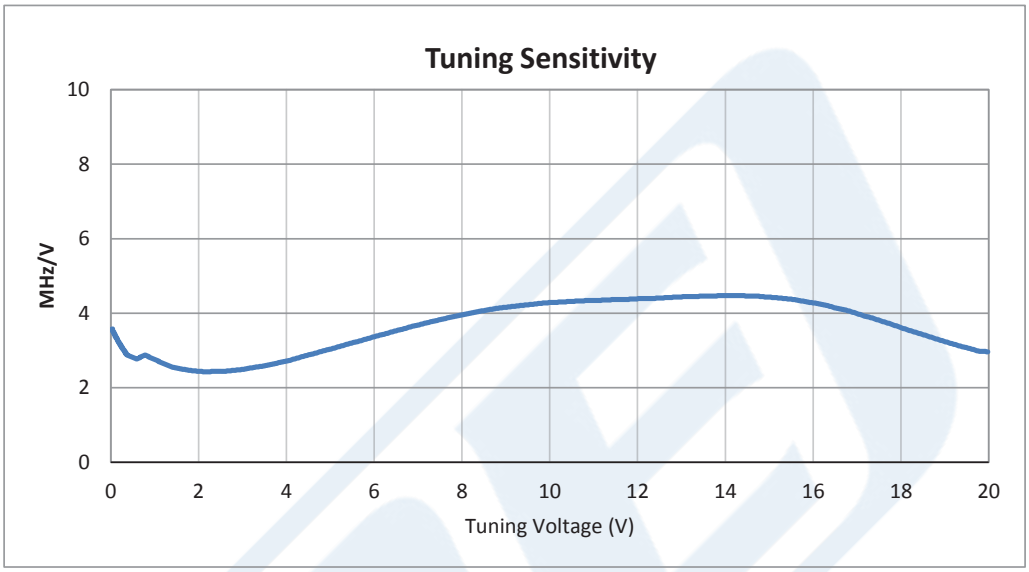
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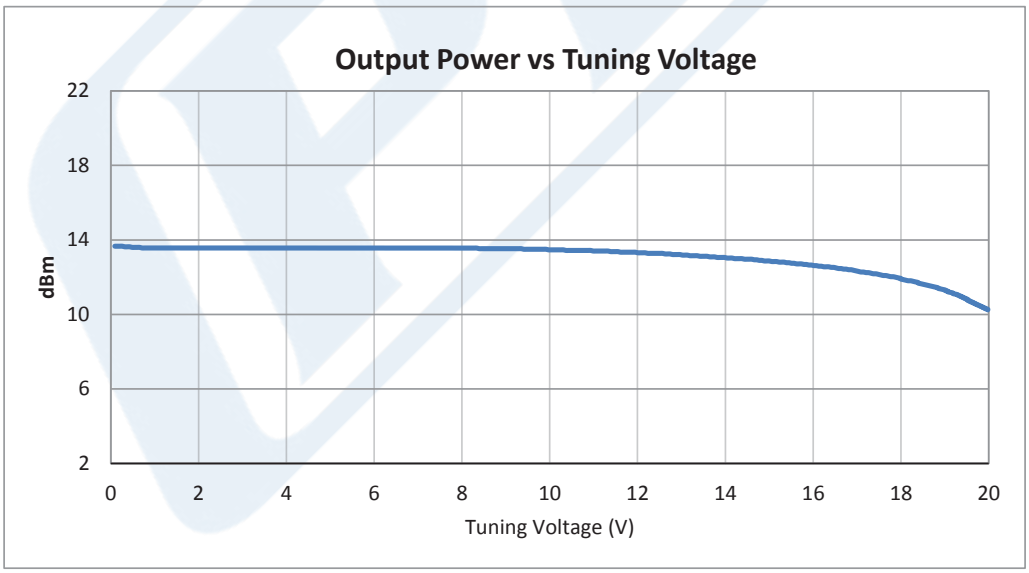
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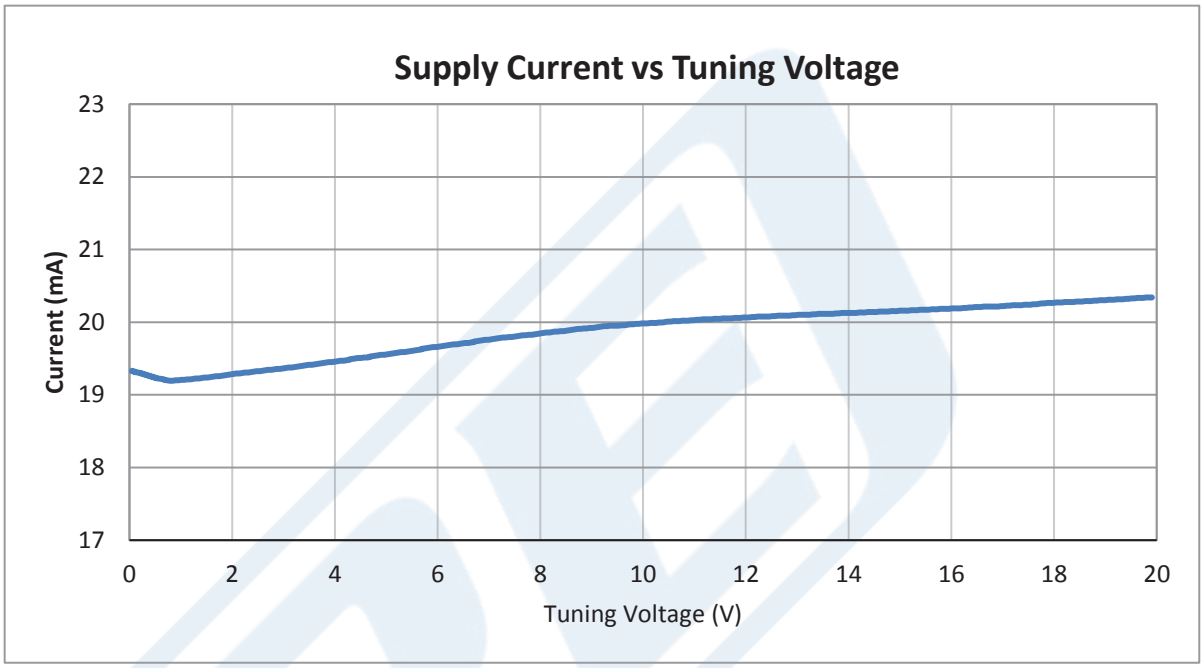
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URL: https://www.pasternack.com/voltage-controlled-oscillator-vco-100-mhz-pe1v31005-p.aspx

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.

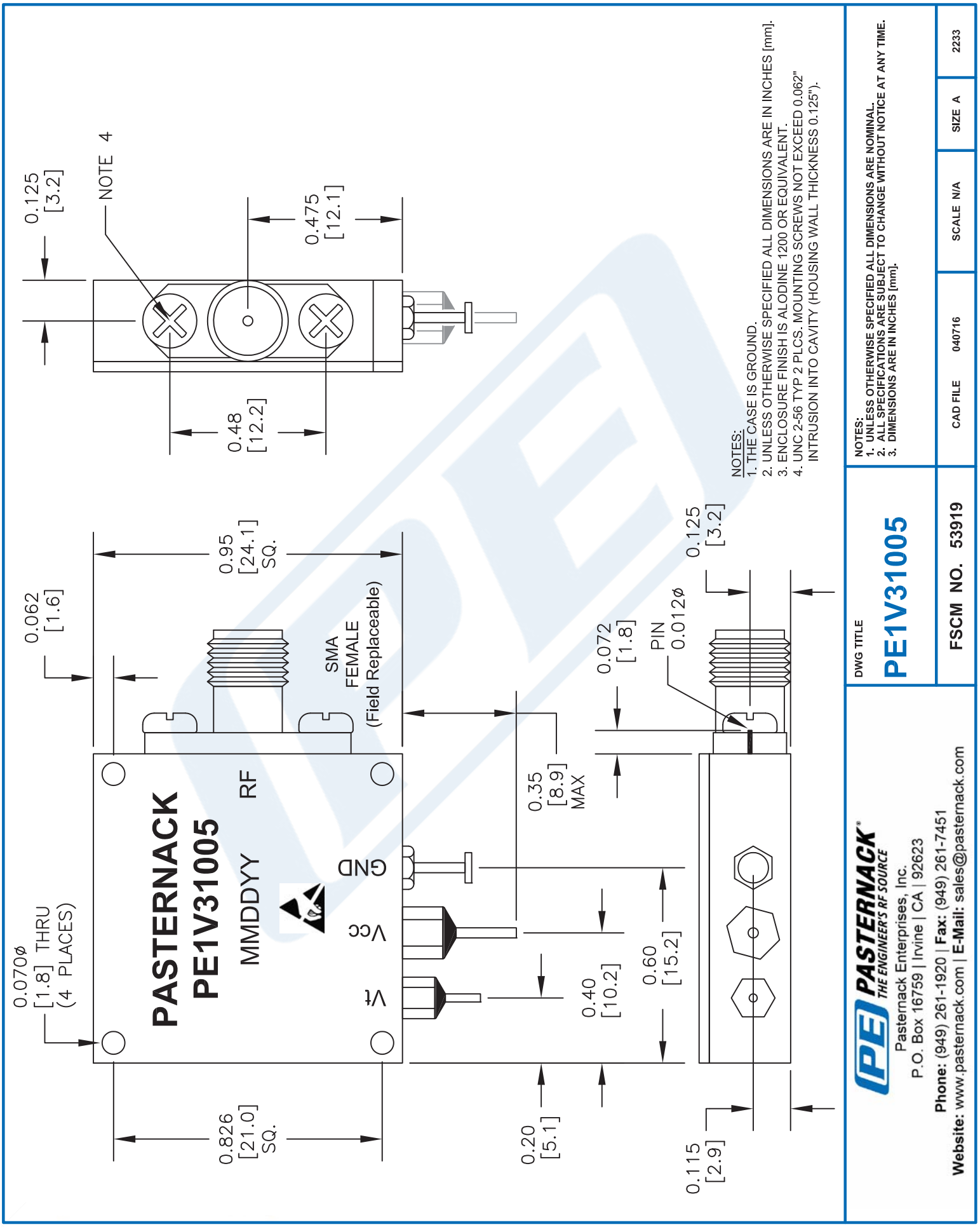
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PE1V31005 CAD Drawing

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