PASTERNACK®
THE ENGINEER'S RF SOURCE

Voltage Controlled Oscillator (VCO) From 200 MHz to 400 MHz, Phase Noise of -106 dBc/Hz and SMA

Voltage Control Oscillators Technical Data Sheet PE1V31009

Features

- 200 to 400 MHz Bandwidth
- -106 dBc/Hz typ @ 10kHz offset
- Tuning Voltage 0.5V to 20V
- Pout = +11 dBm typ
- Harmonics = -12 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 PE1V31009 is a High Reliability Low Noise Voltage Controlled Oscillator (VCO) which covers a 200 to 400 MHz frequency band with a voltage tuning range from 0.5V to 20V. This design features exceptional phase noise performance of -106 dBc/Hz typ @ 10 kHz offset. Supply Voltage is +15V with a generated output power level of +11 dBm typ and 2nd harmonic output of -12 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	200		400	MHz
Tuning Voltage	0.5		20	Vdc
Supply Voltage (DC)	14	15	16	Vdc
Supply Current (DC)		18	20	mA
Phase Noise @ 1kHz Offset		-78	-76	dBc/Hz
Phase Noise @ 10kHz Offset		-106	-104	dBc/Hz
Phase Noise @ 100kHz Offset		-126	-124	dBc/Hz
Output Power	+10	+11	+12	dBm
Tuning Sensitivity (Kvco)	8		20	MHz/V
Pushing		0.4	0.8	MHz/V
Pulling (pk-pk)		200	500	KHz
Tuning Port Capacitance		47		pF
Load Impedance		50		Ohms
2nd Harmonics		-14	-12	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 200 MHz to 400 MHz, Phase Noise of -106 dBc/Hz and SMA PE1V31009

Pasternack Enterprises, Inc. • P.O. Box 16759, Irvine, CA 92623
Phone: (866) 727-8376 or (949) 261-1920 • **Fax:** (949) 261-7451
Sales@Pasternack.com • Techsupport@Pasternack.com

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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	0.03 lbs [13.61 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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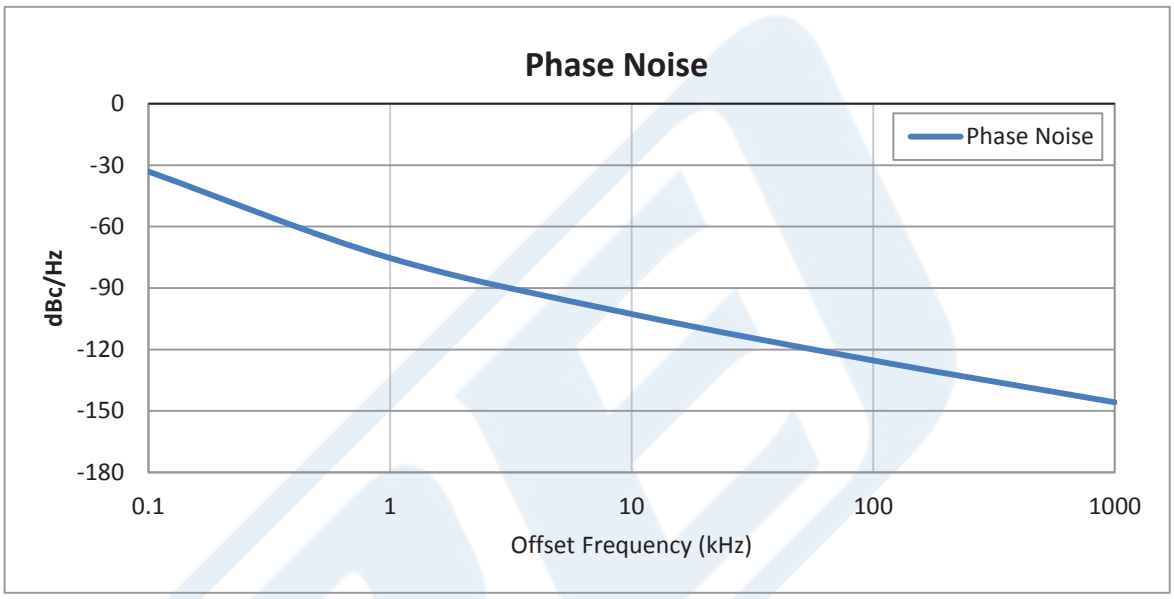
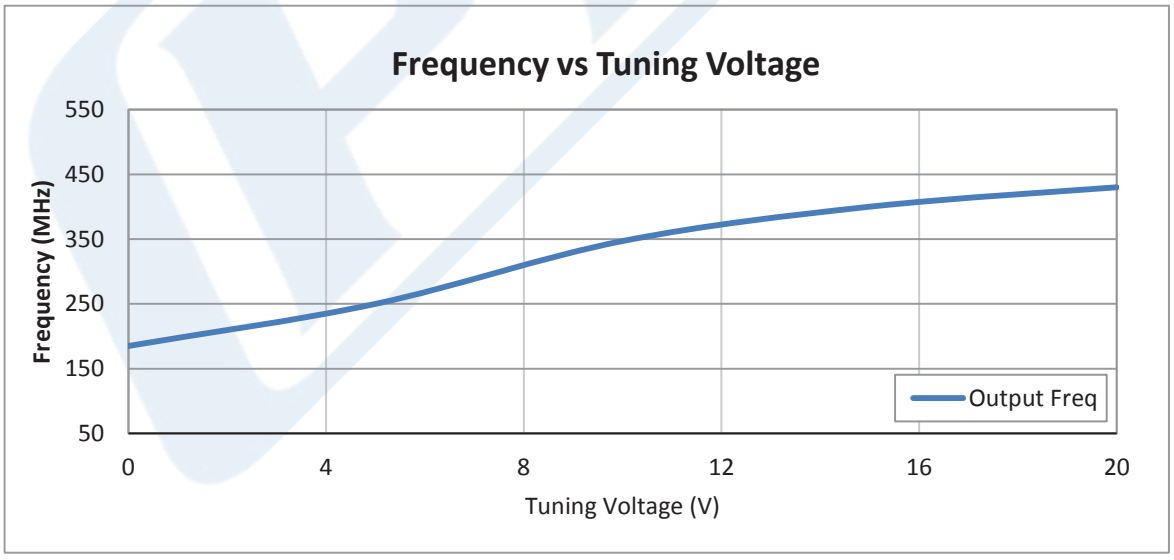
Typical Performance Data





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Voltage Controlled Oscillator (VCO) From 200 MHz to 400 MHz, Phase Noise of -106 dBc/Hz and 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.

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URL: https://www.pasternack.com/voltage-controlled-oscillator-vco-400-mhz-pe1v31009-p.aspx

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PE1V31009 CAD Drawing

Voltage Controlled Oscillator (VCO) From 200 MHz to 400 MHz, Phase Noise of -106 dBc/Hz and SMA