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Voltage Controlled Oscillator (VCO) From 3 GHz to 3.5 GHz, Phase Noise of -81 dBc/Hz and SMA

Voltage Control Oscillators Technical Data Sheet PE1V31013

Features

- 3.0 to 3.5 GHz Bandwidth
- -81 dBc/Hz typ @ 10kHz offset
- Tuning Voltage 0.5V to 10V
- Pout = +10 dBm typ
- Harmonics = -16 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 PE1V31013 is a High Reliability Low Noise Voltage Controlled Oscillator (VCO) which covers a 3.0 to 3.5 GHz frequency band with a voltage tuning range from 0.5V to 10V. This design features exceptional phase noise performance of -81 dBc/Hz @ 10 kHz offset. Supply Voltage is +11V with a generated output power level of +10 dBm and 2nd harmonic output of -16 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	3		3.5	GHz
Tuning Voltage	0.5		10	Vdc
Supply Voltage (DC)	10	11	12	Vdc
Supply Current (DC)		20	22	mA
Phase Noise @ 10kHz Offset		-81	-80	dBc/Hz
Phase Noise @ 100kHz Offset		-103	-102	dBc/Hz
Output Power	+8	+10	+11.5	dBm
Tuning Sensitivity (Kvco)	40		135	MHz/V
Pushing		2.5	5	MHz/V
Pulling (pk-pk)		12	20	MHz
Tuning Port Capacitance		18		pF
Load Impedance		50		Ohms
2nd Harmonics		-16	-13	dBc

Electrical Specification Notes:
Pulling @ 1.5:1 VSWR

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 3 GHz to 3.5 GHz, Phase Noise of -81 dBc/Hz and SMA PE1V31013

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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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
Connector Option	Standard
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.

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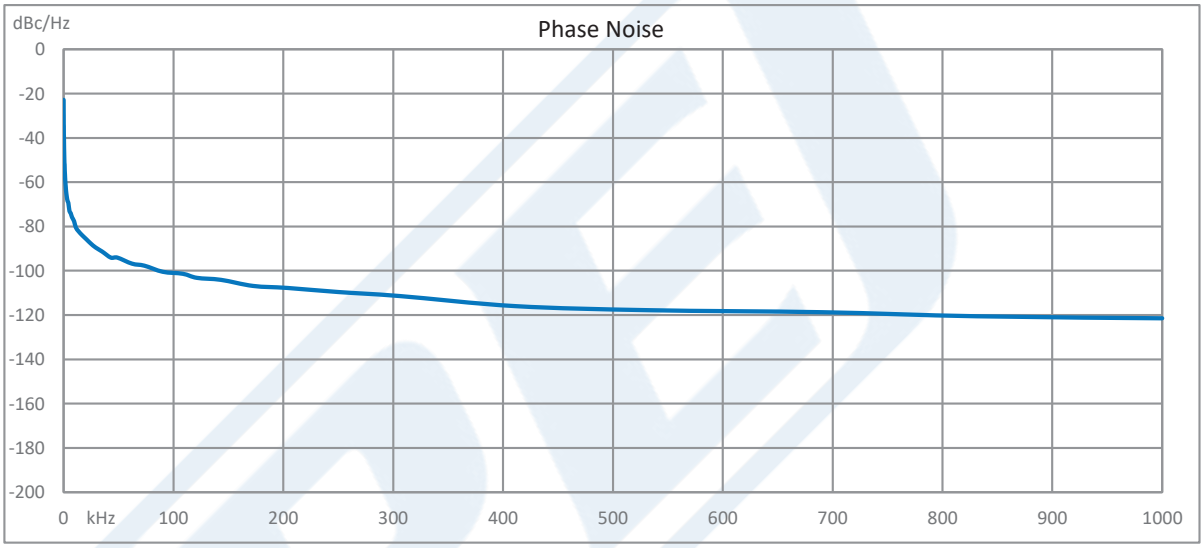
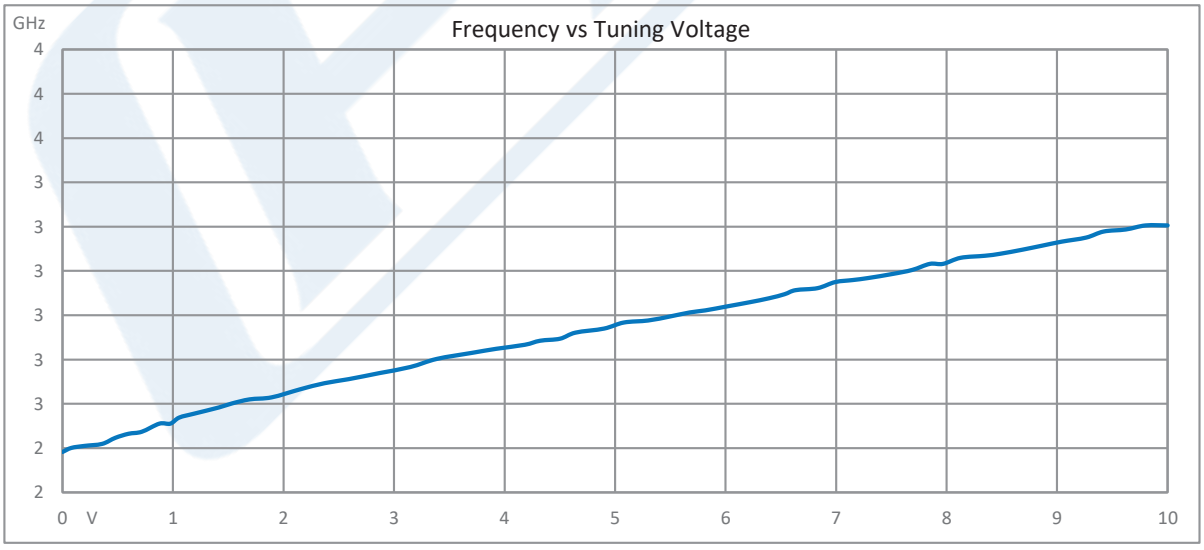
Compliance Certifications (see product page for current document)

Plotted and Other Data

Typical Performance Data





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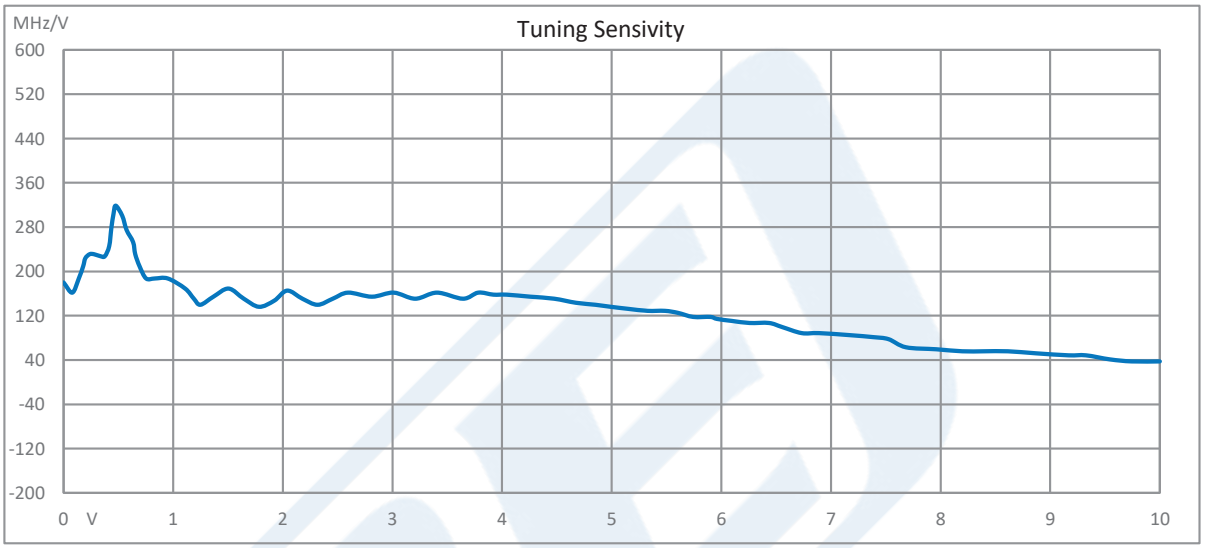

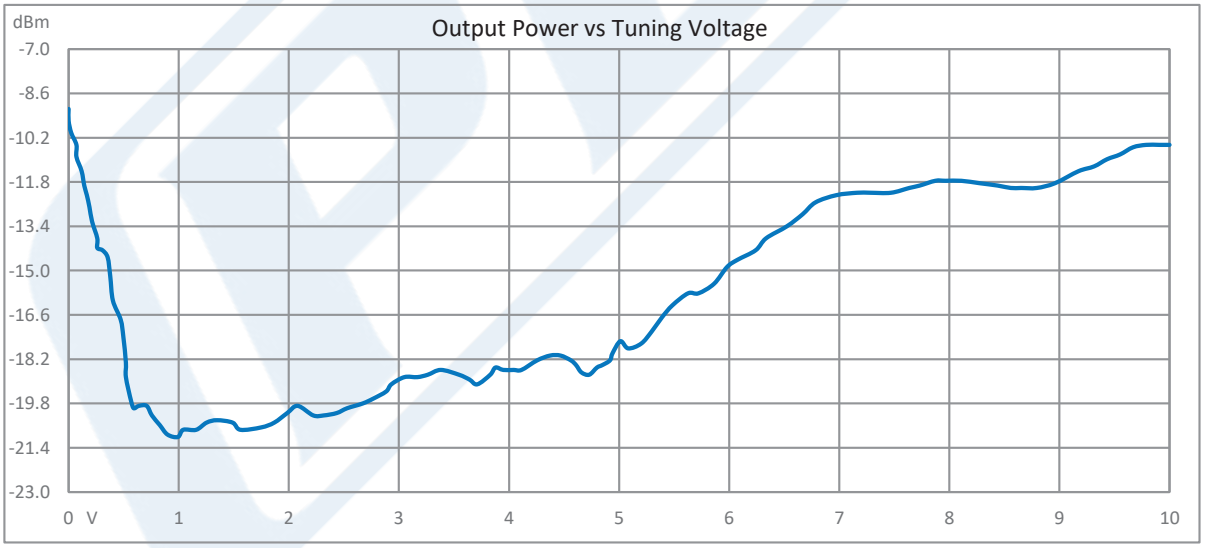

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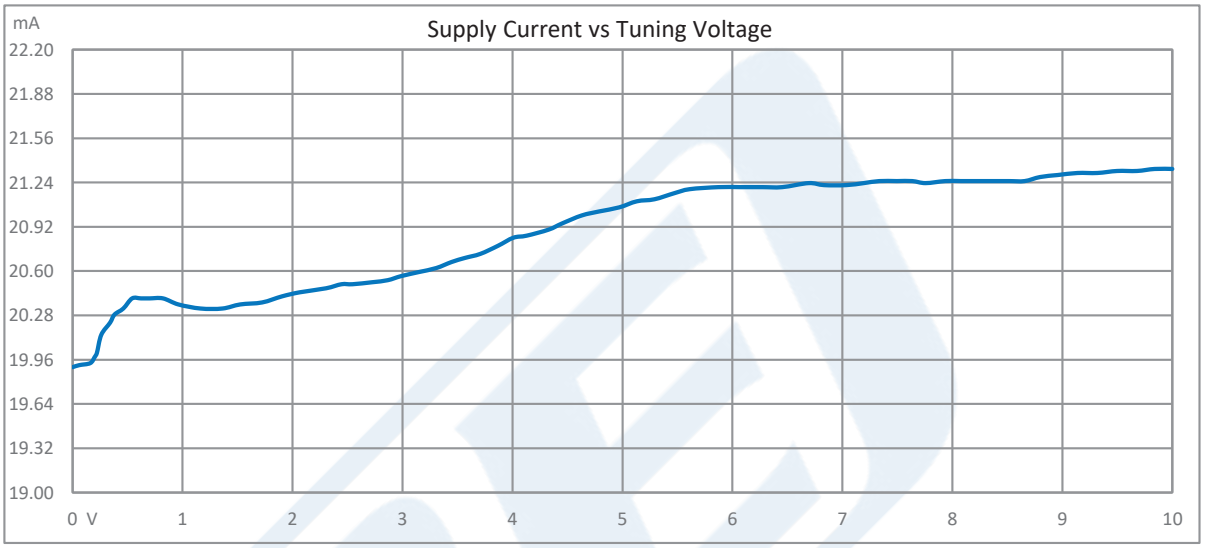

Voltage Controlled Oscillator (VCO) From 3 GHz to 3.5 GHz, Phase Noise of -81 dBc/Hz and SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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URL: https://www.pasternack.com/voltage-controlled-oscillator-vco-3.5-ghz-pe1v31013-p.aspx

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PE1V31013 CAD Drawing

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