



Surface Mount (SMT) Voltage Controlled Oscillator (VCO) From 5.4 GHz to 5.9 GHz, Phase Noise of -84 dBc/Hz and 0.175 inch Package

Voltage Control Oscillators Technical Data Sheet

PE2V014

Features

- 5.4 GHz to 5.9 GHz Bandwidth
- -85 dBc/Hz @ 10kHz offset
- Tuning Voltage 0V to 4.5V
- Pout = +7.0 dBm
- Harmonics = -17 dBc
- RoHS Compliant Assembly
- 0.5" SMT package
- Industry Standard Mounting Footprint
- 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 PE2V014 is a High Reliability Low Noise Voltage Controlled Oscillator (VCO) which covers a 5.4 GHz to 5.9 GHz frequency band with a voltage tuning range from 0V to 10.0V. This design features exceptional phase noise performance of -84 dBc/Hz @ 10 kHz offset. Supply Voltage is +11V with a generated output power level of +7.0 dBm and 2nd harmonic output of -17 dBc typical. The assembly is RoHS compliant and available in a compact 0.5 inch SMT package with an industry standard mounting footprint. The bottom surface is copper clad with 2-5 micro inches of immersion Gold over 150 - 250 micro inches of Electro less Nickel which makes it resistant to oxidation for ease of soldering. 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	5.4		5.9	GHz
Tuning Voltage	0		10	Vdc
Supply Voltage (DC)	10	11	12	Vdc
Supply Current (DC)		22	25	mA
Phase Noise @ 10kHz Offset		-84	-81	dBc/Hz
Phase Noise @ 100kHz Offset		-105	-103	dBc/Hz
Output Power	+7	+8.5	+9.5	dBm
Tuning Sensitivity (Kvco)	120		200	MHz/V
Pushing		5	8	MHz/V
Pulling (pk-pk)		25	35	MHz
Load Impedance		50		Ohms
2nd Harmonics		-25	-22	dBc

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Surface Mount \(SMT\) Voltage Controlled Oscillator \(VCO\) From 5.4 GHz to 5.9 GHz, Phase Noise of -84 dBc/Hz and 0.175 inch Package PE2V014](#)



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Mechanical Specifications

Size

Length	0.175 in [4.45 mm]
Width	0.175 in [4.45 mm]
Height	0.075 in [1.91 mm]
Weight	0.009 lbs [4.08 g]
Body Material and Plating	Copper Clad Nickel, Gold
Design	Commercial

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:

Surface Mount (SMT) Voltage Controlled Oscillator (VCO) From 5.4 GHz to 5.9 GHz, Phase Noise of -84 dBc/Hz and 0.175 inch Package 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/surface-mount-smt-voltage-controlled-oscillator-vco-5.9-ghz-pe2v014-p.aspx>

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