

**VCO (Voltage Controlled Oscillator) Frequency of 25 MHz to 50 MHz, Phase Noise -120 dBc/Hz and SMA**

The FMVC31001 is a High Reliability Low Noise Voltage Controlled Oscillator (VCO) which covers a 25 MHz to 50 MHz frequency band with a voltage tuning range from 0.5V to 15V. This design features exceptional phase noise performance of -120 dBc/Hz typ @ 10 kHz offset. Supply Voltage is +15V with a generated output power level of +11.5 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	Min	Typ	Max	Units
Frequency Range	25		50	MHz
Tuning Voltage	0.5		15	Vdc
Supply Voltage (DC)	14	15	16	Vdc
Supply Current (DC)		16	18	mA
Phase Noise @1kHz Offset		-93	-91	dBc/Hz
Phase Noise @10kHz Offset		-120	-118	dBc/Hz
Phase Noise @100kHz Offset		-140	-138	dBc/Hz
Output Power	+10	+11.5	+12.5	dBm
Tuning Sensitivity (Kvco)	1.5		2.5	MHz/V
Pushing		0.05	0.1	MHz/V
Pulling (pk-pk)		30	100	KHz
Tuning Port Capacitance		100		pF
Load Impedance		50		Ohms
2nd Harmonics		-12	-10	dBc

Electrical Specification Notes:  
 Pulling @ 1.5 VSWR

**Mechanical Specifications**

<b>Size</b>	
Length	0.95 in [24.13 mm]
Width	0.95 in [24.13 mm]
Height	0.285 in [7.24 mm]
Weight	0.0295 lbs [13.38 g]
Body Material and Plating	Aluminum
Design	Commercial
Output Connector	SMA Female

**Environmental Specifications**

<b>Temperature</b>	
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

**Features:**

- 25 to 50 MHz Bandwidth
- -120 dBc/Hz typ @ 10kHz offset
- Tuning Voltage 0.5V to 15V
- Pout = +11.5 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

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Temperature Cycle  
 ESD Sensitivity

MIL-STD-202, Method 107B  
 ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.

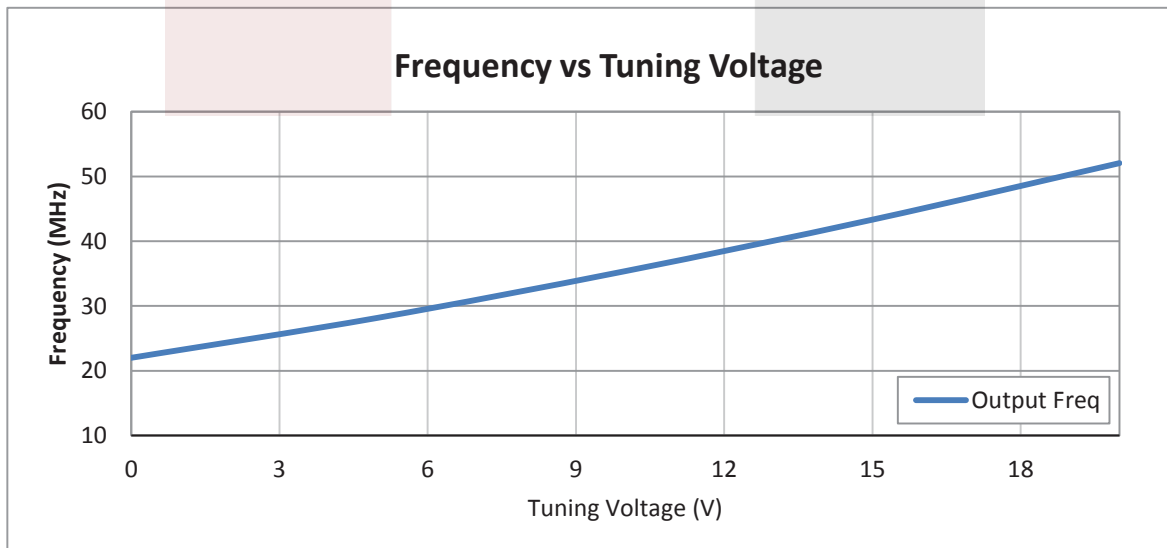
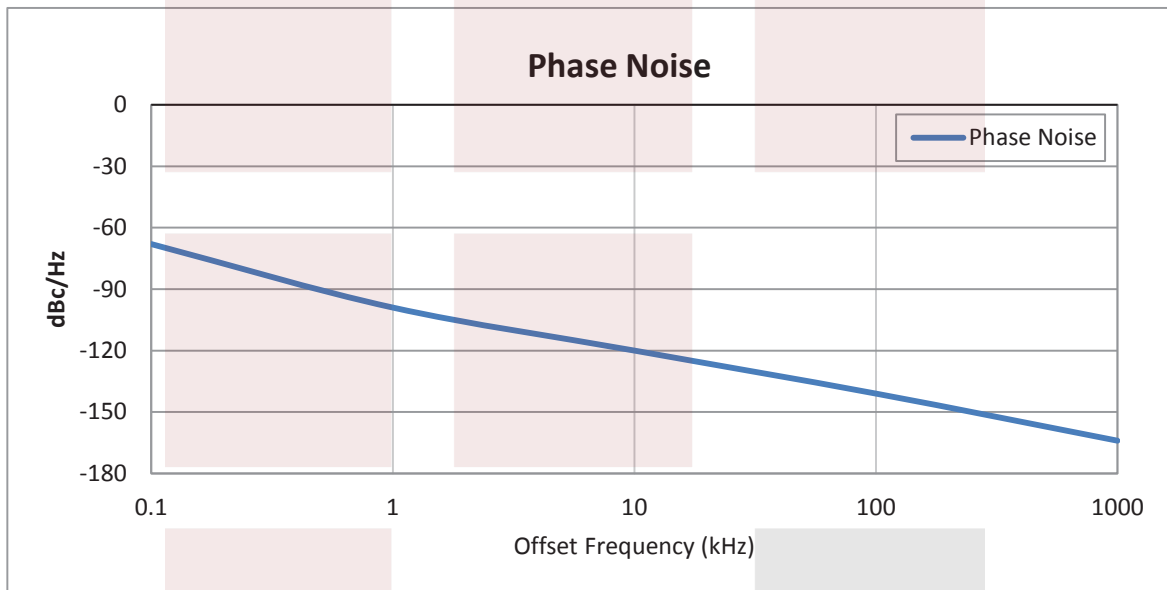


**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

Notes:

Typical Performance Data



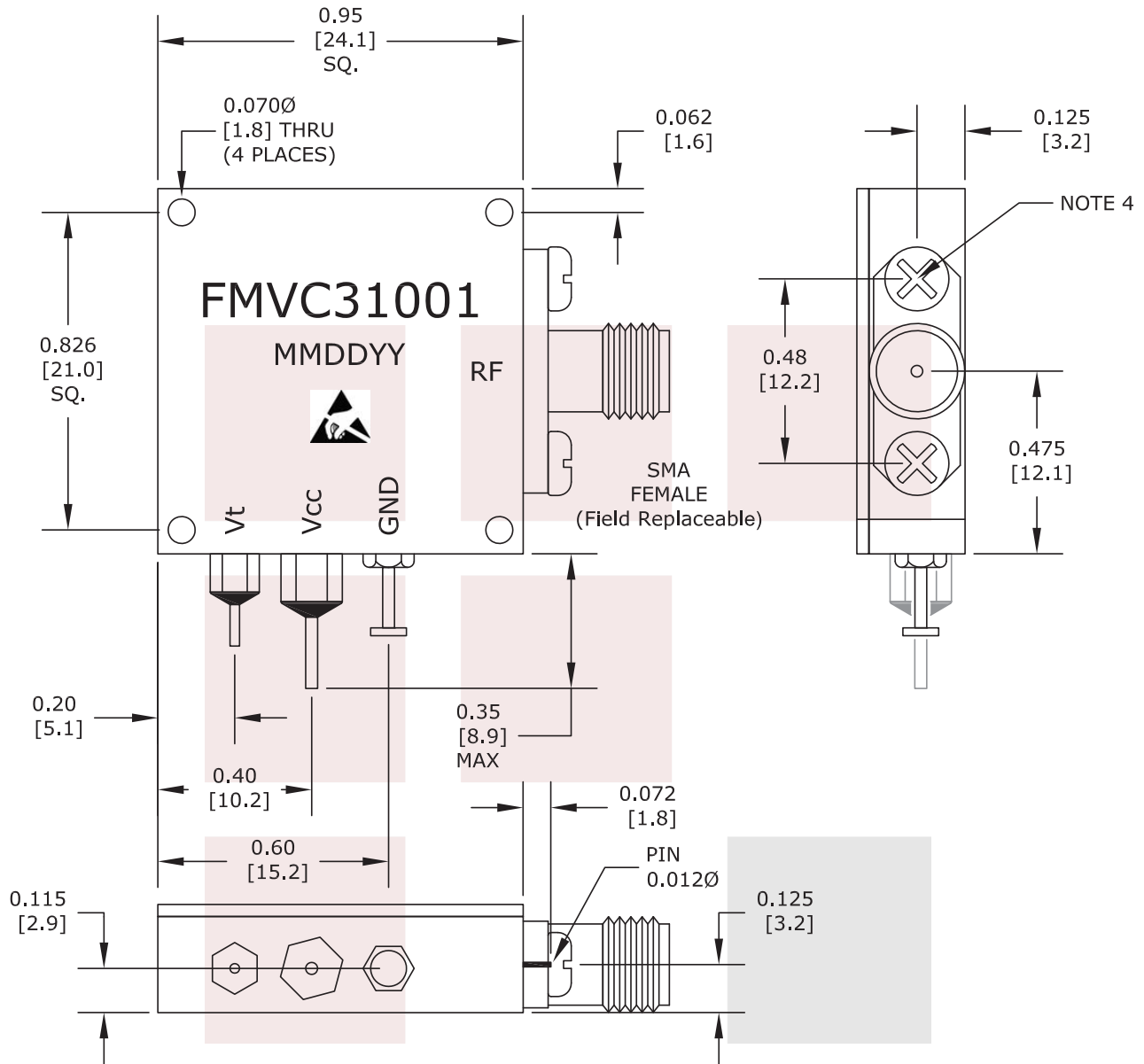
VCO (Voltage Controlled Oscillator) Frequency of 25 MHz to 50 MHz, Phase Noise -120 dBc/Hz and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [VCO \(Voltage Controlled Oscillator\) Frequency of 25 MHz to 50 MHz, Phase Noise -120 dBc/Hz and SMA FMVC31001](#)

URL: <https://www.fairviewmicrowave.com/vco-voltage-controlled-oscillator-50-mhz-fmvc31001-p.aspx>

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**NOTES:**

1. THE CASE IS GROUND.
2. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES [mm].
3. ENCLOSURE FINISH IS ALODINE 1200 OR EQUIVALENT.
4. UNC 2-56 TYP 2 PLCS. MOUNTING SCREWS NOT EXCEED 0.062" INTRUSION INTO CAVITY (HOUSING WALL THICKNESS 0.125").

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TITLE VCO (Voltage Controlled Oscillator) Frequency of 25 MHz to 50 MHz, Phase Noise -120 dBc/Hz and SMA		DWG NO FMVC31001		CAGE CODE 3FKR5	
CAD FILE	040716	SHEET	SCALE	N/A	SIZE A 2233