

## VCO (Voltage Controlled Oscillator) Frequency of 75 MHz to 150 MHz, Phase Noise -110 dBc/Hz and SMA

FMVC31007 is a High Reliability Low Noise Voltage Controlled Oscillator (VCO) which covers a 75 to 150 MHz frequency band with a voltage tuning range from 0.5V to 18V. This design features exceptional phase noise performance of -110 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 -20 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	75		150	MHz
Tuning Voltage	0.5		18	Vdc
Supply Voltage (DC)	14	15	16	Vdc
Supply Current (DC)		18	20	mA
Phase Noise @1kHz Offset		-83	-80	dBc/Hz
Phase Noise @10kHz Offset		-110	-108	dBc/Hz
Phase Noise @100kHz Offset		-130	-129	dBc/Hz
Output Power	+10	+11	+12	dBm
Tuning Sensitivity (Kvco)	3		8	MHz/V
Pushing		0.2	0.4	MHz/V
Pulling (pk-pk)		400	800	KHz
Tuning Port Capacitance		100		pF
Load Impedance		50		Ohms
2nd Harmonics		-20	-15	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
<b>Humidity</b>	MIL-STD-202, Method 103, 90% RH, +65 C
<b>Shock</b>	MIL-STD-202, Method 213I
<b>Vibration</b>	MIL-STD-202, Method 204D



### Features:

- 75 to 150 MHz Bandwidth
- -110 dBc/Hz typ @ 10kHz offset
- Tuning Voltage 0.5V to 18V
- Pout = +11 dBm typ
- Harmonics = -20 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.

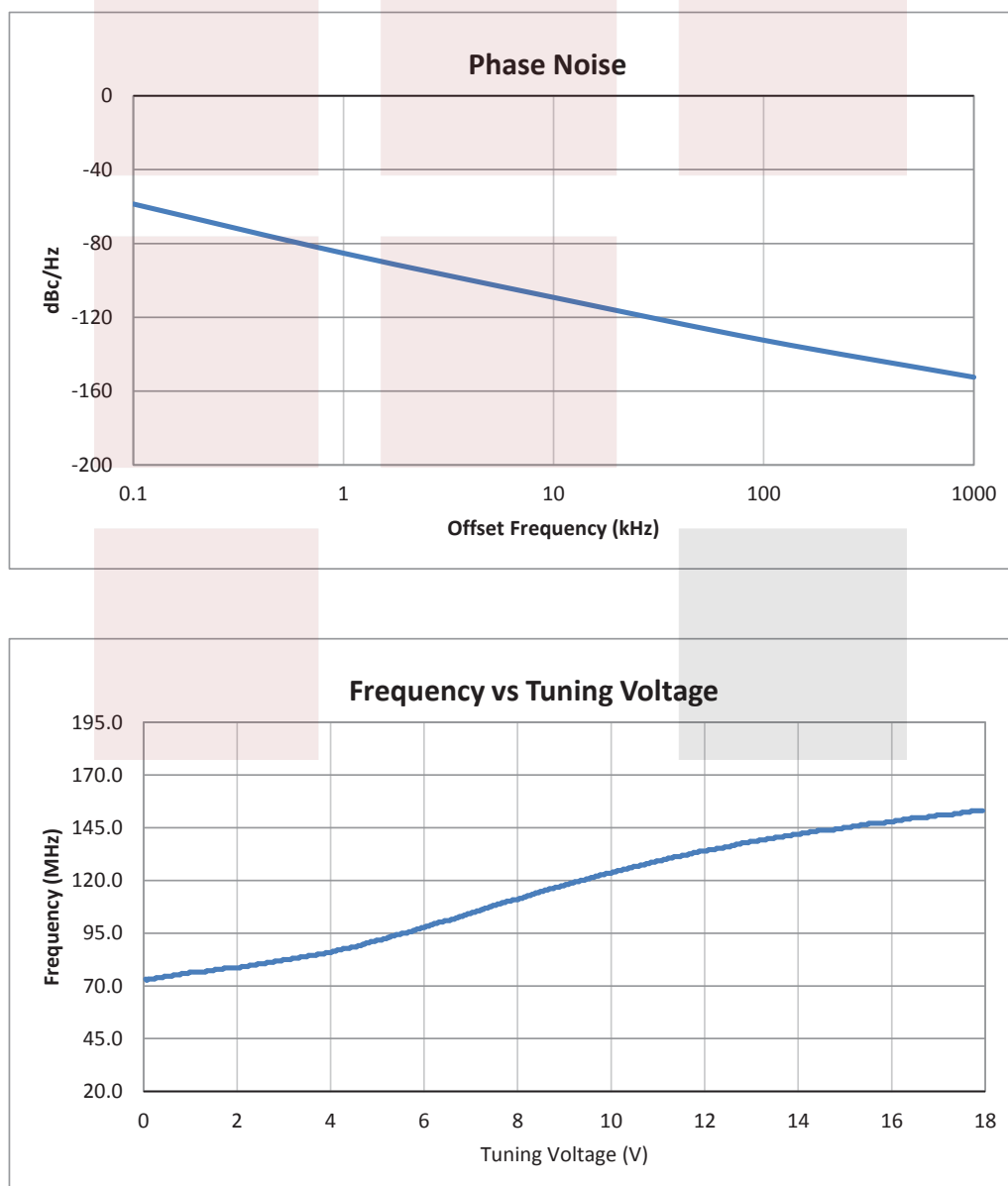


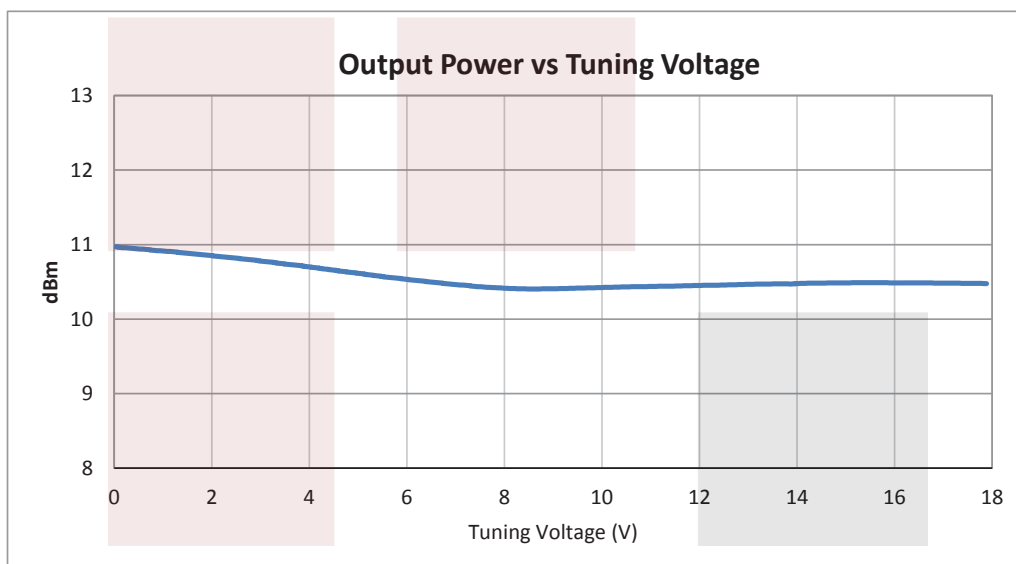
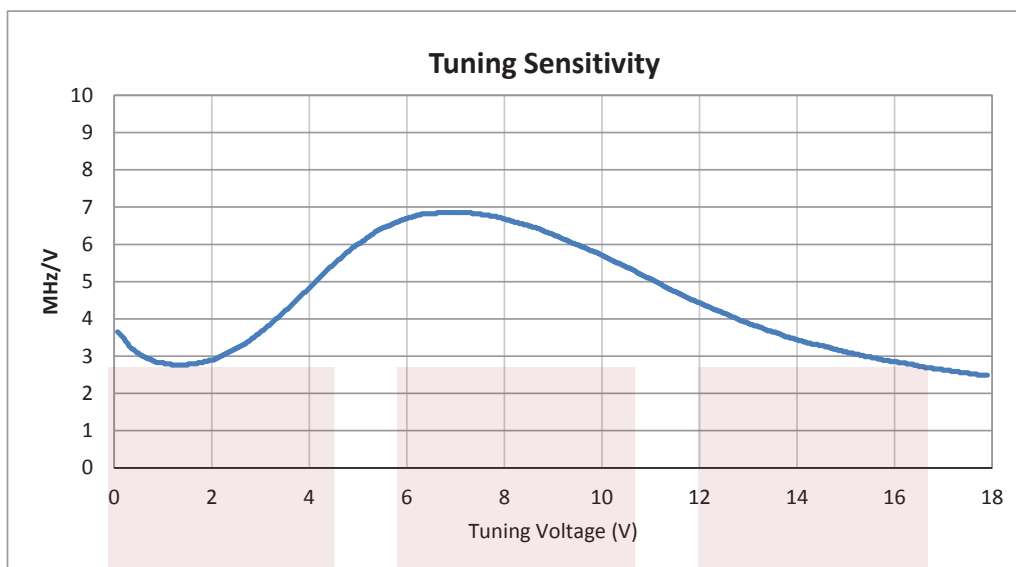
**Compliance Certifications** (see [product page](#) for current document)

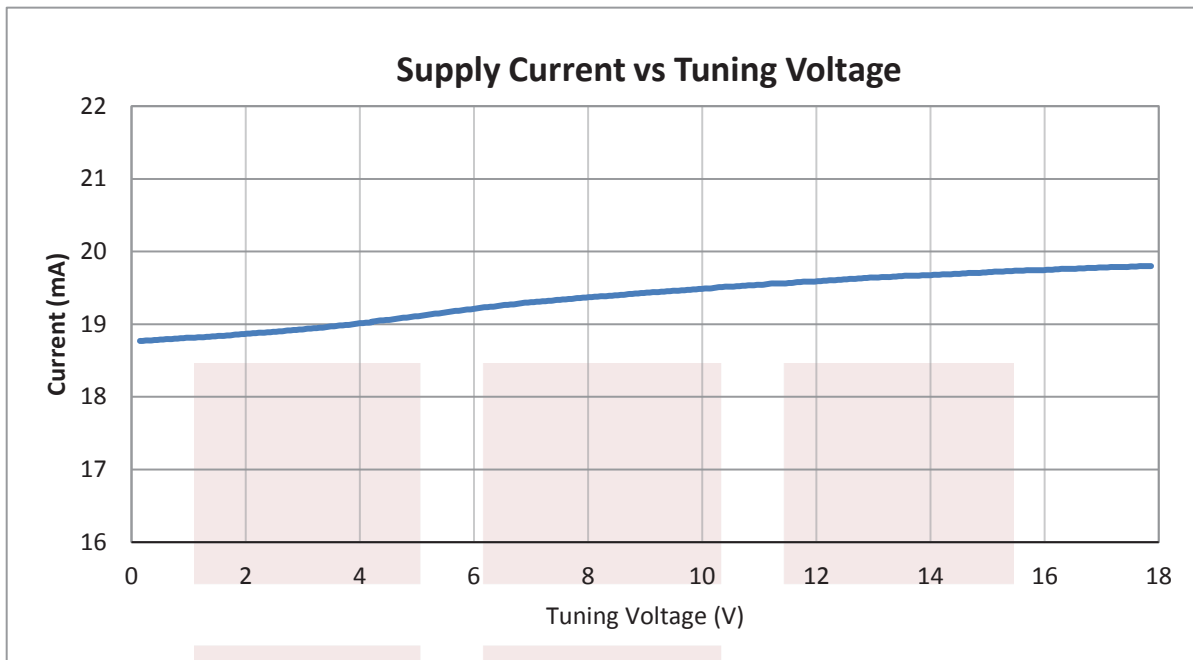
## Plotted and Other Data

Notes:

Typical Performance Data





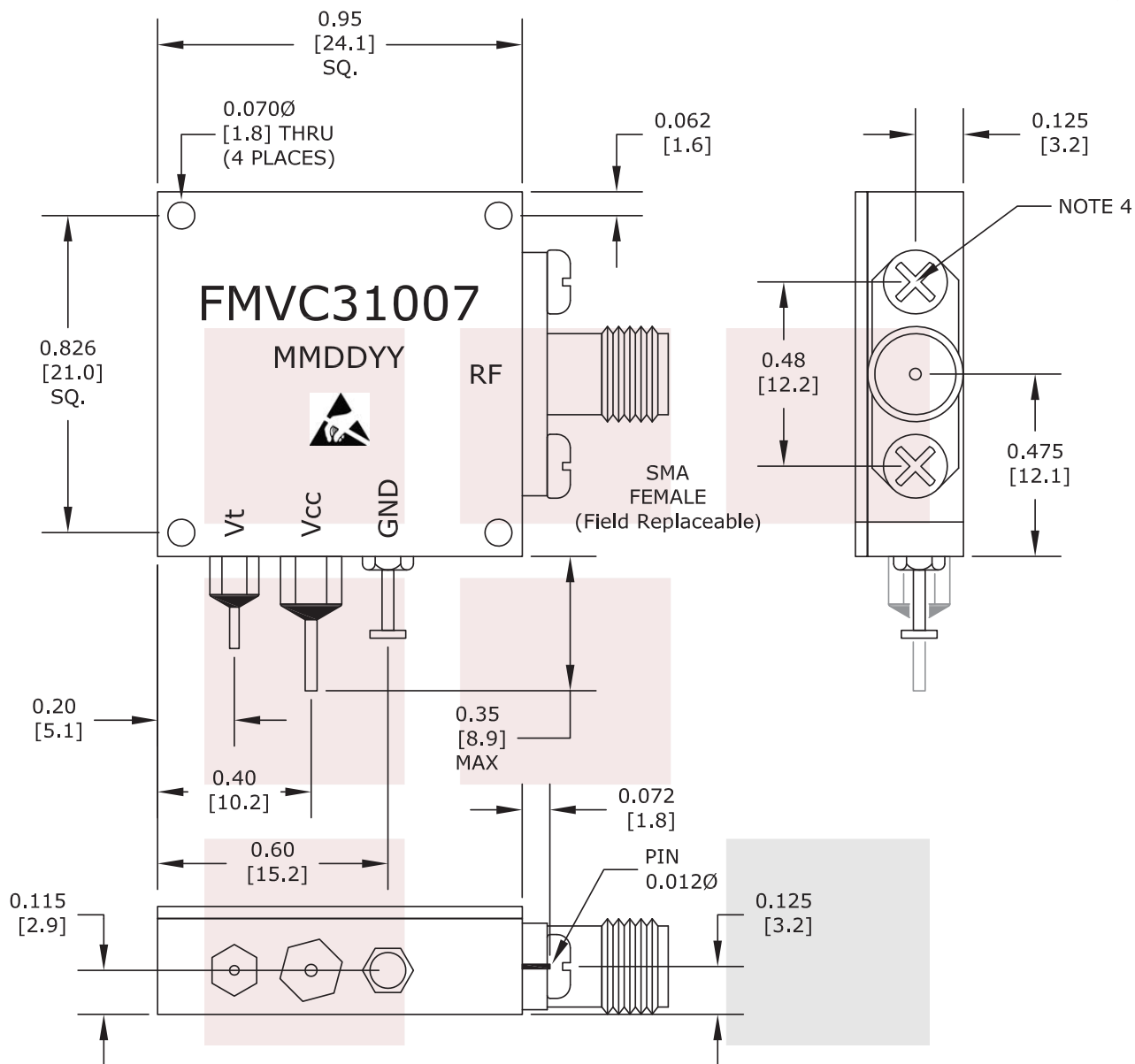


VCO (Voltage Controlled Oscillator) Frequency of 75 MHz to 150 MHz, Phase Noise -110 dBc/Hz and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [VCO \(Voltage Controlled Oscillator\) Frequency of 75 MHz to 150 MHz, Phase Noise -110 dBc/Hz and SMA FMVC31007](https://www.fairviewmicrowave.com/vco-voltage-controlled-oscillator-150-mhz-fmvc31007-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 75 MHz to 150 MHz, Phase Noise -110 dBc/Hz and SMA		DWG NO FMVC31007		CAGE CODE 3FKR5	
CAD FILE	040716	SHEET	SCALE	N/A	SIZE A 2233