

VCO (Voltage Controlled Oscillator) Frequency of 400 MHz to 800 MHz, Phase Noise -94 dBc/Hz and SMA

FMVC31010 is a High Reliability Low Noise Voltage Controlled Oscillator (VCO) which covers a 400 to 800 MHz frequency band with a voltage tuning range from 0.5V to 13V. This design features exceptional phase noise performance of -94 dBc/Hz typ @ 10 kHz offset. Supply Voltage is +10V with a generated output power level of +12 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	400		800	MHz
Tuning Voltage	0.5		13	Vdc
Supply Voltage (DC)	9	10	11	Vdc
Supply Current (DC)		22	25	mA
Phase Noise @10kHz Offset		-94	-91	dBc/Hz
Phase Noise @100kHz Offset		-115	-112	dBc/Hz
Output Power	+10	+12	+14	dBm
Tuning Sensitivity (Kvco)	20		70	MHz/V
Pushing		0.6	3	MHz/V
Pulling (pk-pk)		0.71	1	MHz
Tuning Port Capacitance		36		pF
Load Impedance		50		Ohms
2nd Harmonics		-20	-15	dBc

Electrical Specification Notes:
Pulling @ 1.5 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	0.0638 lbs [28.94 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



Features:

- 400 to 800 MHz Bandwidth
- -94 dBc/Hz typ @ 10kHz offset
- Tuning Voltage 0.5V to 13V
- Pout = +12 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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ESD Sensitivity

ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.

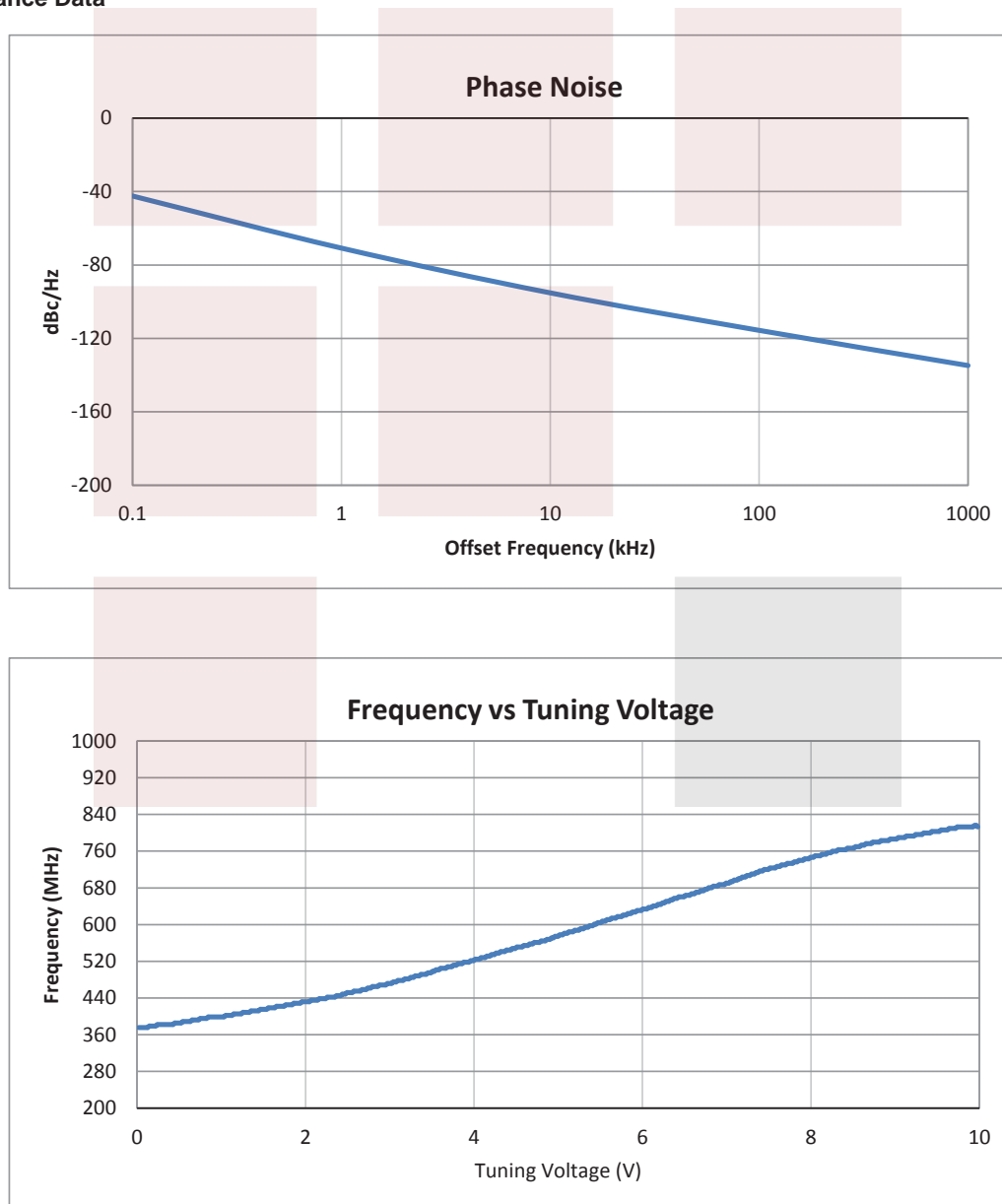


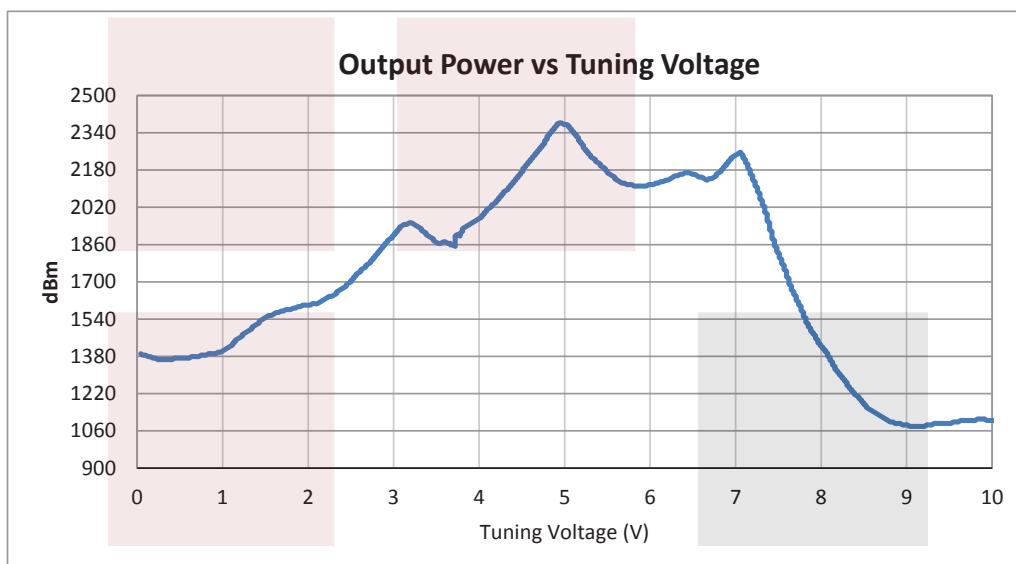
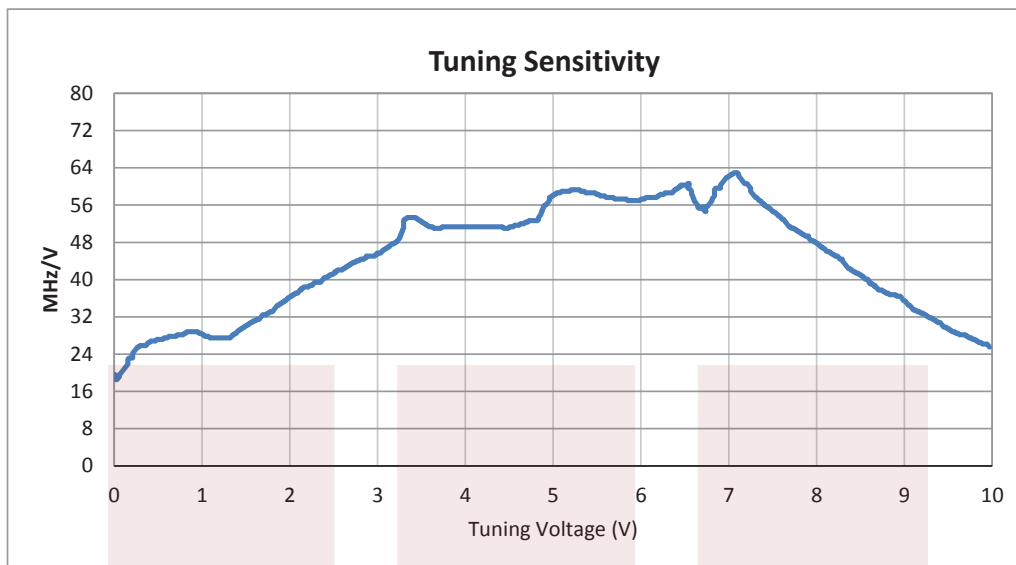
Compliance Certifications (see [product page](#) for current document)

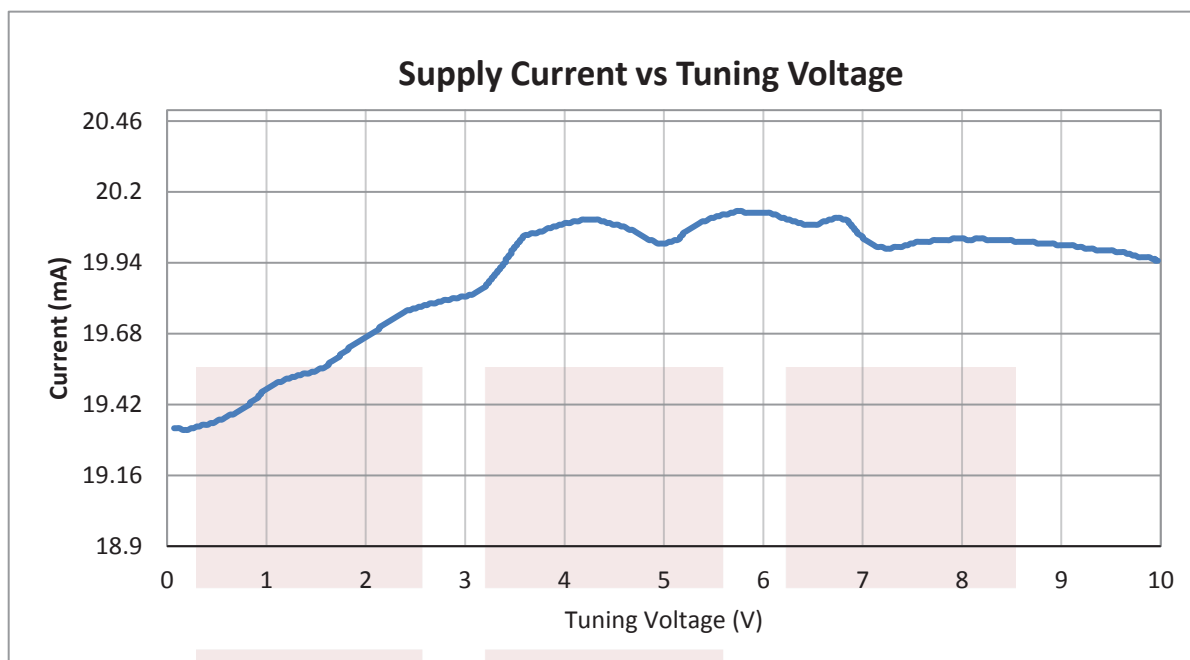
Plotted and Other Data

Notes:

Typical Performance Data





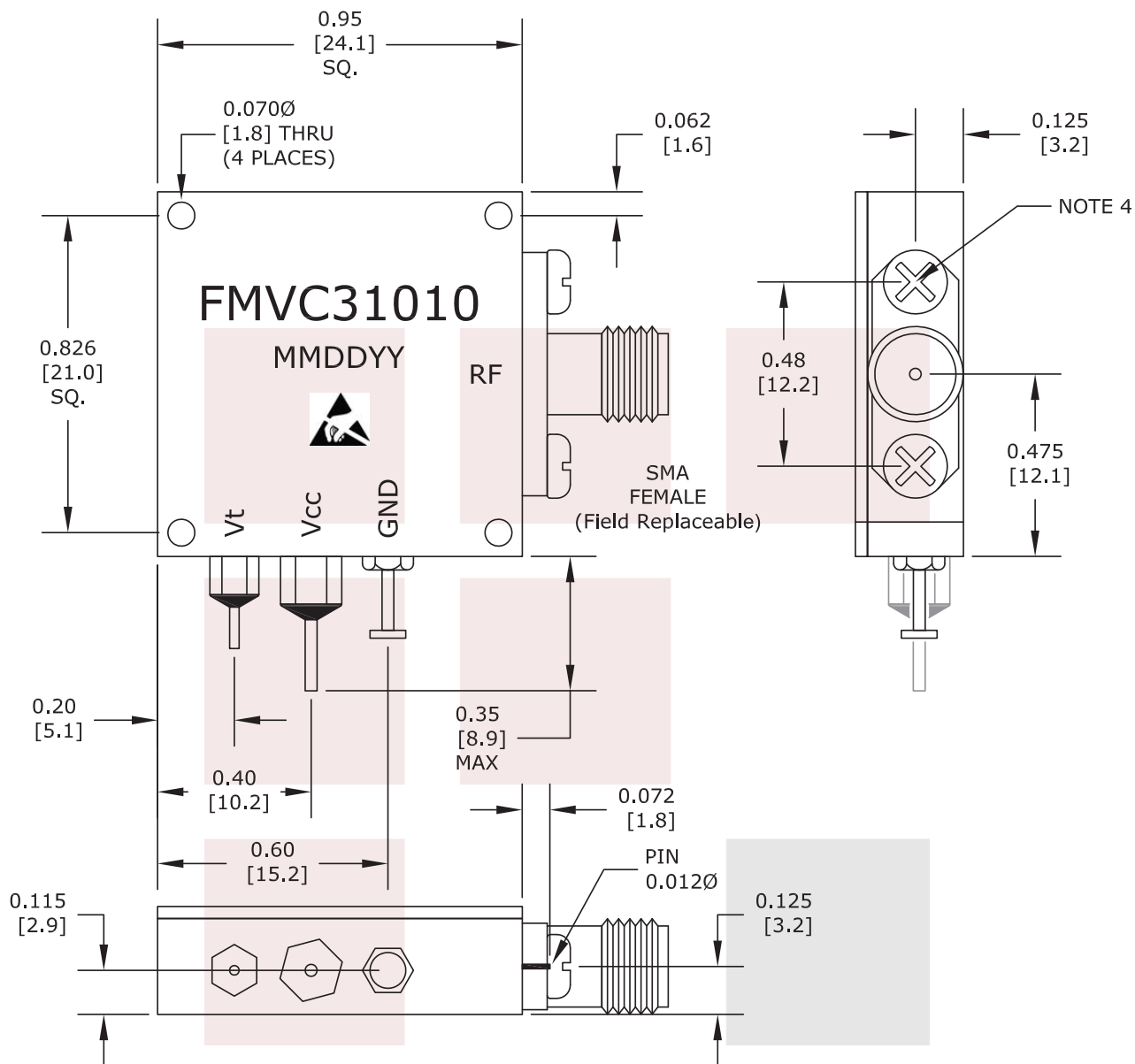


VCO (Voltage Controlled Oscillator) Frequency of 400 MHz to 800 MHz, Phase Noise -94 dBc/Hz and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [VCO \(Voltage Controlled Oscillator\) Frequency of 400 MHz to 800 MHz, Phase Noise -94 dBc/Hz and SMA FMVC31010](https://www.fairviewmicrowave.com/vco-voltage-controlled-oscillator-800-mhz-fmvc31010-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 400 MHz to 800 MHz, Phase Noise -94 dBc/Hz and SMA		DWG NO FMVC31010		CAGE CODE 3FKR5	
CAD FILE	040716	SHEET	SCALE	N/A	SIZE A 2233