

## VCO (Voltage Controlled Oscillator) Hi-REL Hermetic Frequency of 4 GHz to 8 GHz, Phase Noise -95 dBc/ Hz and SMA

The FMVC34000 Voltage Controlled Oscillator operates across the frequency range of 4 GHz to 8 GHz. The design utilizes leading edge GaAs MMIC technology which incorporates the resonator, negative resistance device, and varactor diode. An internal voltage regulator provides excellent frequency pushing of 0.2 MHz/V. The design also incorporates an output buffer amplifier that provides output power up to +20 dBm. Phase noise performance is stable over temperature at -95 dBc/Hz @ 100 KHz offset, with a tuning voltage range of 0 to +18 Volts. Bias is from a single +12V DC supply. The drop-in package is hermetically sealed with field replaceable SMA connectors and has an operating temperature range of -40°C to +85°C. And for added confidence, this rugged package assembly is designed to meet MIL-STD-883 test conditions for Hermeticity and Temperature Cycle.

### Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	4		8	GHz
Tuning Voltage	0		18	Vdc
Supply Voltage (DC)		12		Vdc
Supply Current (DC)		195		mA
Tune Port Leakage Current			0.01	mA
Phase Noise @10kHz Offset		-75		dBc/Hz
Phase Noise @100kHz Offset		-95		dBc/Hz
Output Return Loss		15		dB
Output Power	+17	+20		dBm
Pushing		0.2		MHz/V
2nd Harmonics		-10		dBc

### Mechanical Specifications

<b>Size</b>	
Length	0.64 in [16.26 mm]
Width	0.7 in [17.78 mm]
Height	0.29 in [7.37 mm]

### Configuration

Design	Hi-REL Hermetic
Connector Option	Field Replaceable
Control Connector	SMA Female
Output Connector	SMA Female

### Environmental Specifications

<b>Temperature</b>	
Operating Range	-40 to +85 deg C
Storage Range	-65 to +150 deg C
<b>Temperature Cycle</b>	MIL-STD-883, Method 101C, Cond B
<b>Hermetic Seal</b>	Gross Leak MIL-STD-883 Method 1014C1/Fine Leak MIL-STD-883, Method 1014A2, 5 x 10 <sup>-8</sup> atm cc



### Features:

- VCO Module with Integrated Buffer Amplifier
- GaAs MMIC Technology
- Wide Tuning Bandwidth
- Vtune Range 0V to +18V
- High Output Power +20 dBm
- SSB Phase Noise -95 dBc/Hz @100Hz offset
- Single Positive Supply +8V to +15V
- Regulated Voltage Supply
- Hermetically Sealed Module
- Mil Spec Compliant
- Field Replaceable SMA Connectors
- -40°C to +85°C Operating Temperature

### Applications:

- Electronic Warfare
- Electronic Countermeasures
- Microwave Radio
- Radar
- Industrial
- Medical Equipment
- Test Instrumentation
- Lab Instrumentation

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ESD Sensitivity

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

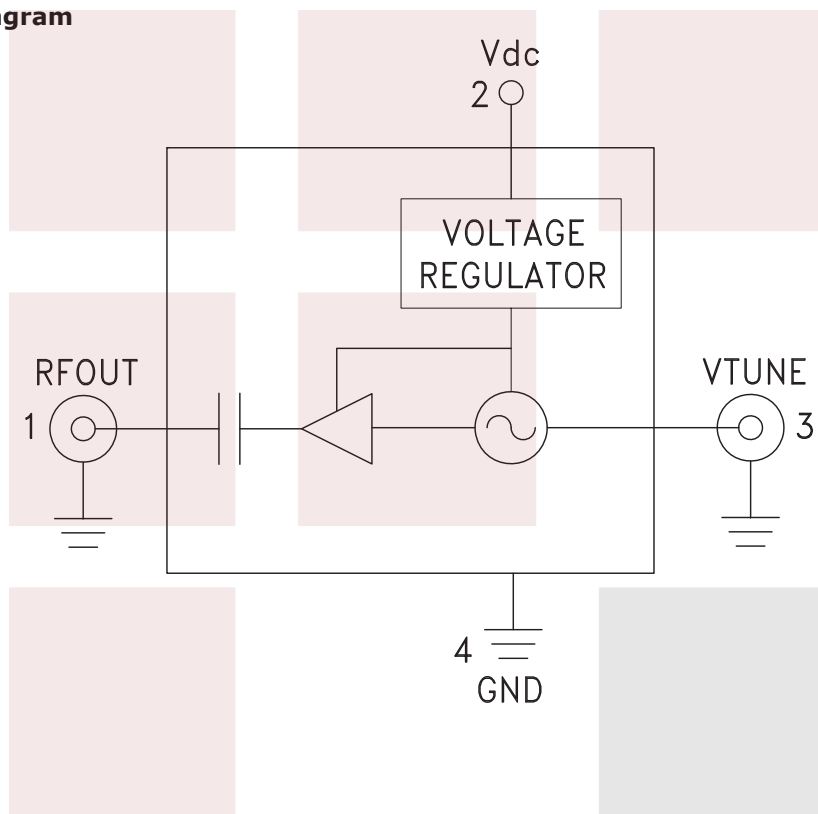


**Compliance Certifications** (see [product page](#) for current document)

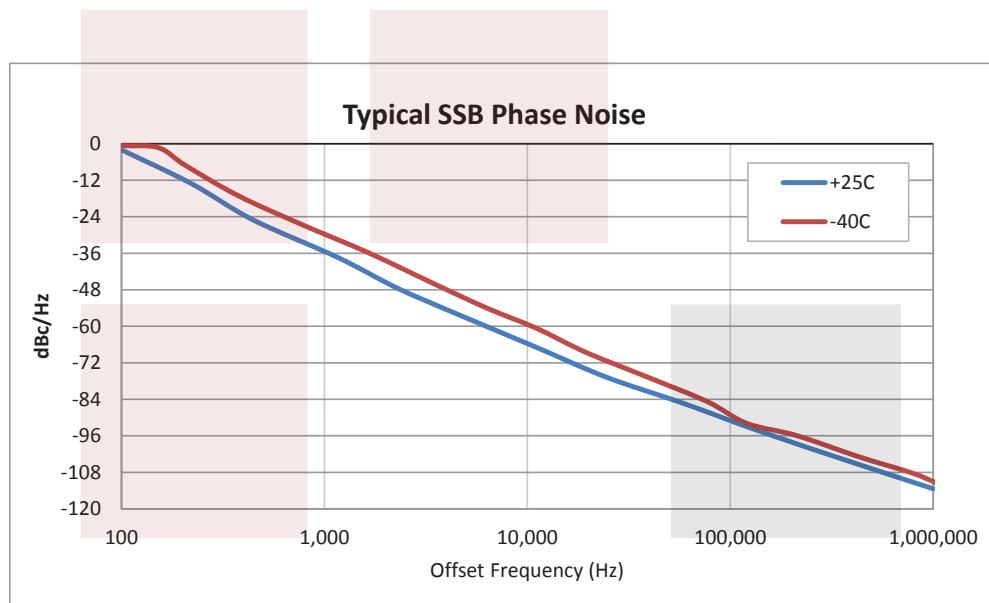
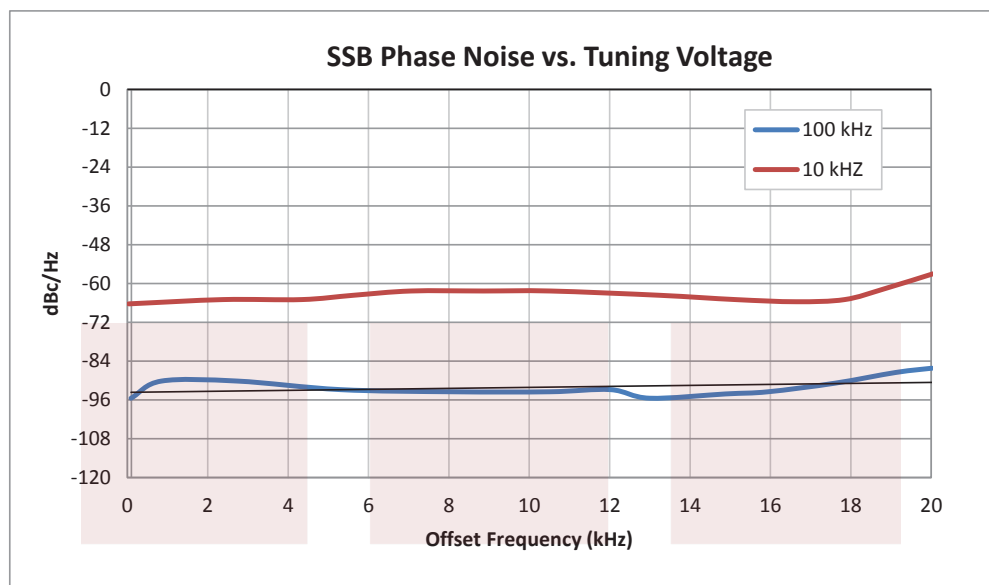
**Plotted and Other Data**

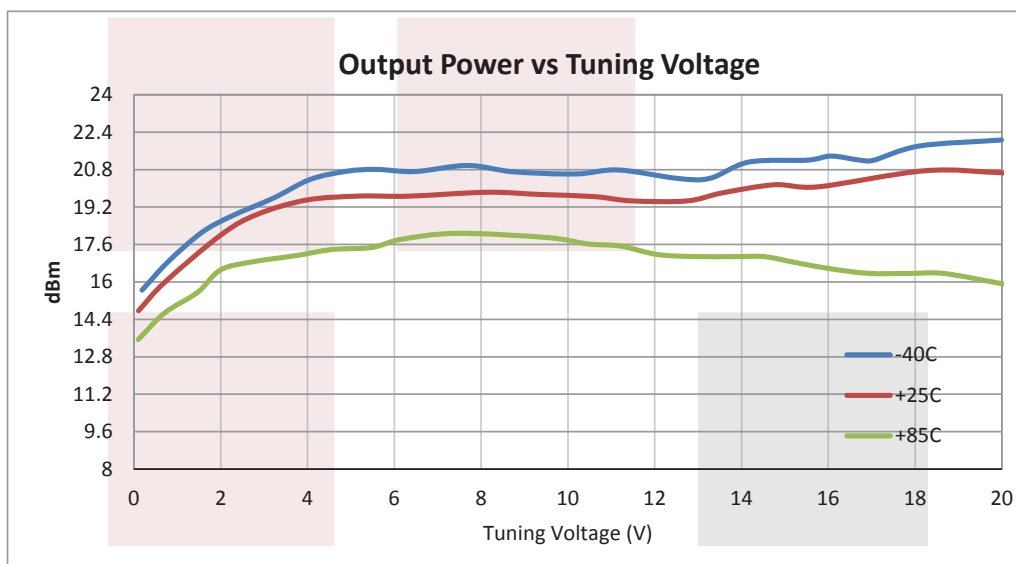
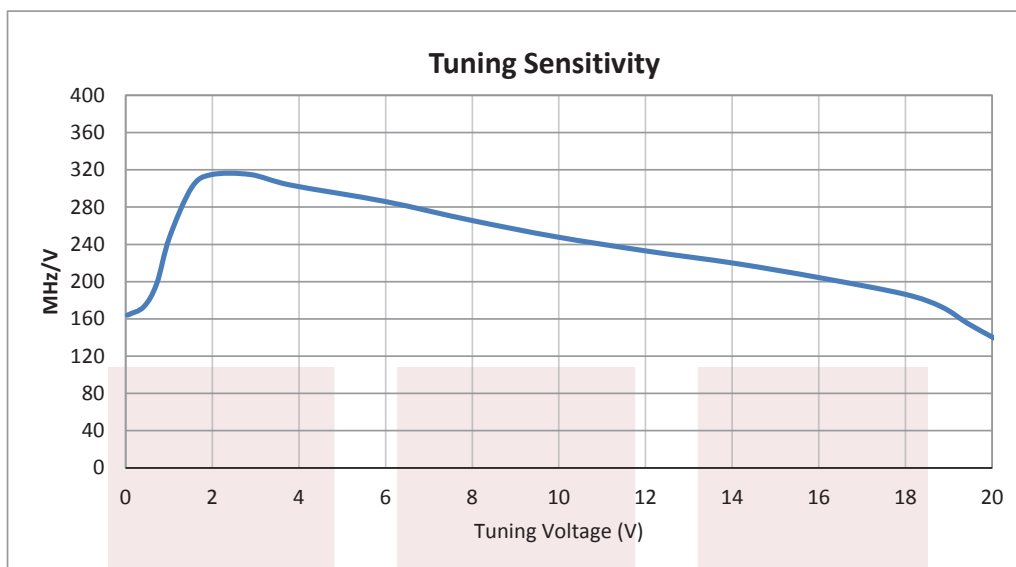
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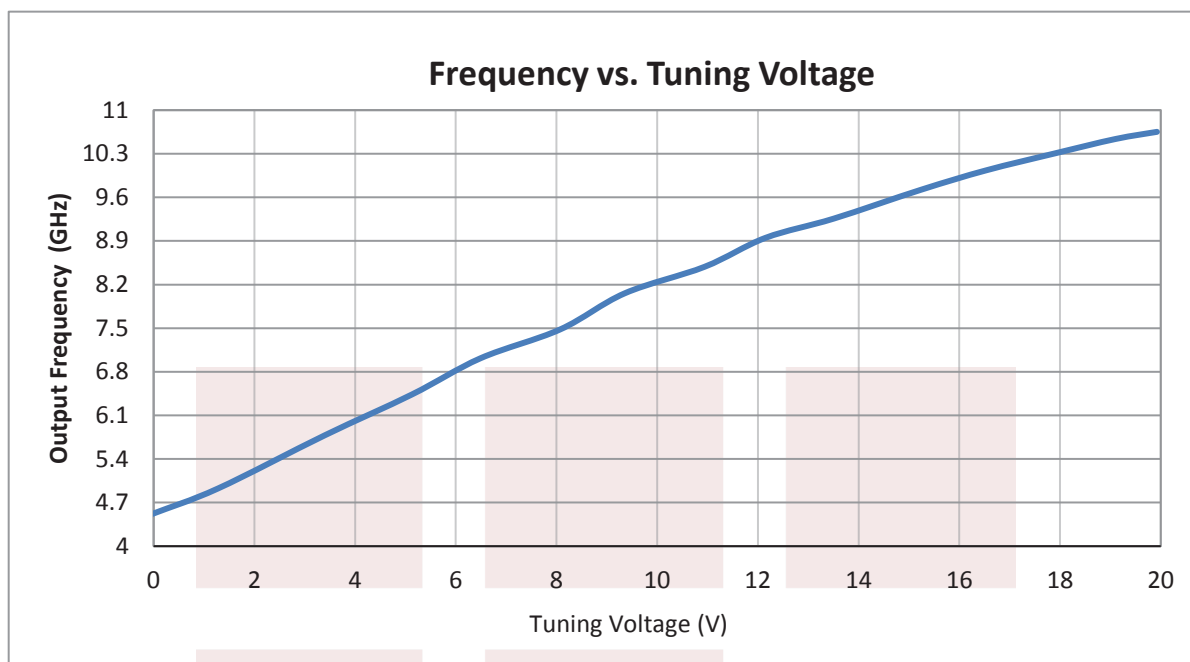
**Functional Block Diagram**



Typical Performance Data





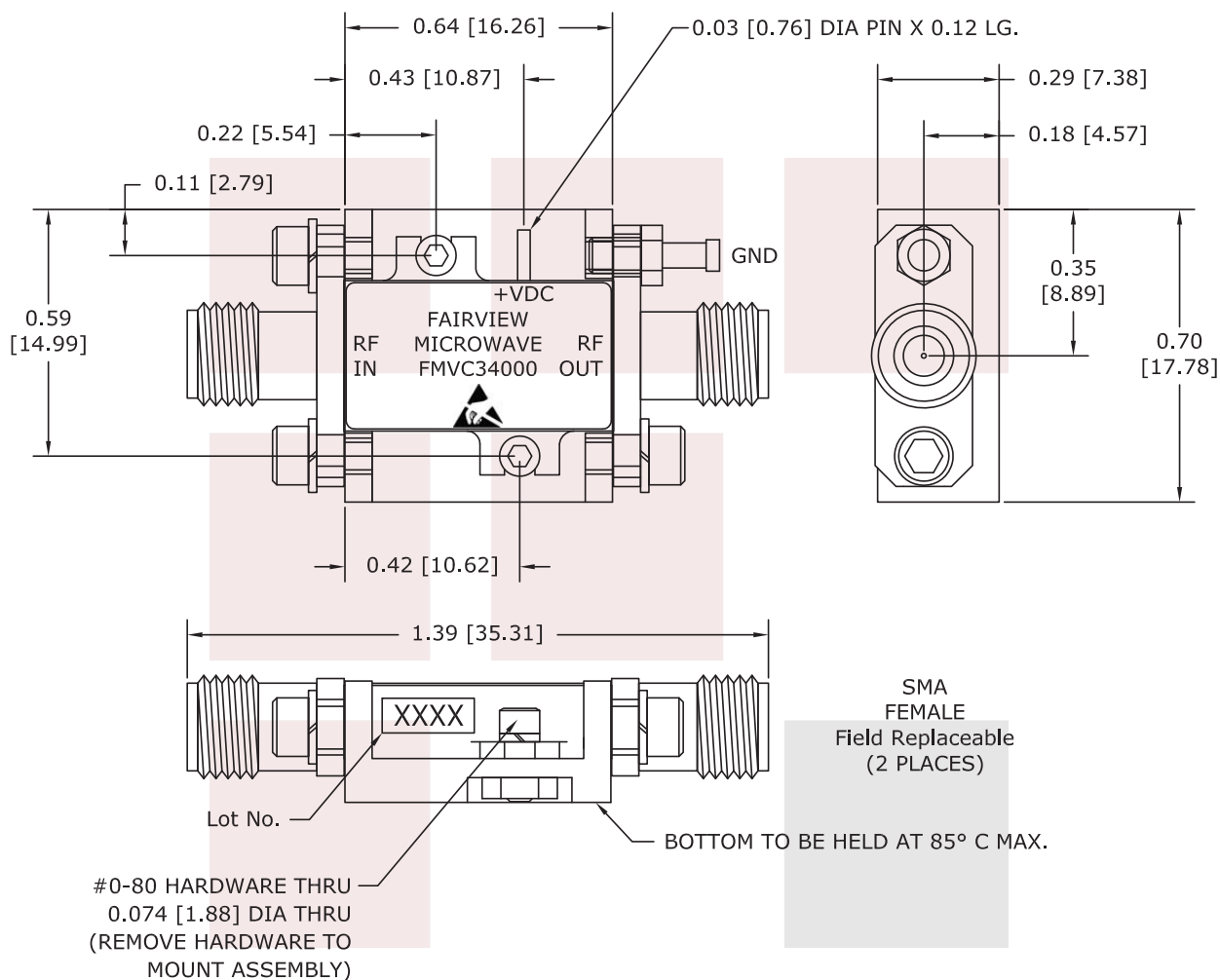


VCO (Voltage Controlled Oscillator) Hi-REL Hermetic Frequency of 4 GHz to 8 GHz, Phase Noise -95 dBc/Hz and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [VCO \(Voltage Controlled Oscillator\) Hi-REL Hermetic Frequency of 4 GHz to 8 GHz, Phase Noise -95 dBc/Hz and SMA FMVC34000](https://www.fairviewmicrowave.com/vco-voltage-controlled-oscillator-connectorized-module-error-fmvc34000-p.aspx)

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**NOTE:**  
HEAT SINK REQUIRED FOR PROPER OPERATION,  
UNIT IS COOLED BY CONDUCTING TO HEAT SINK.

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TITLE VCO (Voltage Controlled Oscillator) Hi-REL Hermetic Frequency of 4 GHz to 8 GHz, Phase Noise -95 dBc/Hz and SMA		DWG NO <b>FMVC34000</b>		CAGE CODE <b>3FKR5</b>	
CAD FILE	040616	SHEET	SCALE	N/A	SIZE A 2233