

**VCO (Voltage Controlled Oscillator) Hi-REL Hermetic
 Frequency of 38.4 GHz to 43.2 GHz, Phase Noise
 -98 dBc/Hz and 2.4mm**

The FMVC34003 Voltage Controlled Oscillator operates across the frequency range of 38.4 GHz to 43.2 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 40 MHz/V. The design also incorporates an output buffer amplifier that provides output power up to +13 dBm. Phase noise performance is stable over temperature at -98 dBc/Hz @ 100 KHz offset, with a tuning voltage range of 0 to +13 Volts. Bias is from a single +5V DC supply. The drop-in package is hermetically sealed with field replaceable 2.4mm connectors and has an operating temperature range of -55°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	38.4		43.2	GHz
Tuning Voltage	0		13	Vdc
Supply Voltage (DC)		5		Vdc
Supply Current (DC)		195		mA
Tune Port Leakage Current			0.01	mA
Phase Noise @10kHz Offset		-74		dBc/Hz
Phase Noise @100kHz Offset		-98		dBc/Hz
Output Return Loss		17		dB
Output Power	+10	+13		dBm
Pushing		40		MHz/V
2nd Harmonics		-30		dBc

Mechanical Specifications

Size	
Length	0.65 in [16.51 mm]
Width	0.65 in [16.51 mm]
Height	0.23 in [5.84 mm]

Configuration

Design	Hi-REL Hermetic
Connector Option	Field Replaceable
Control Connector	Solder Pin
Output Connector	2.4mm Female

Environmental Specifications

Temperature

Operating Range	-55 to +85 deg C
Storage Range	-65 to +150 deg C

Temperature Cycle
 Hermetic Seal

MIL-STD-883, Method 101C, Cond B
 Gross Leak MIL-STD-883 Method
 1014C1/Fine Leak MIL-STD-883,
 Method 1014A2, 5 x 10⁻⁸ atm cc

Features:

- VCO Module with Integrated Buffer Amplifier
- GaAs MMIC Technology
- Wide Tuning Bandwidth
- Vtune Range 0V to +13V
- Output Power +13 dBm
- SSB Phase Noise -98 dBc/Hz @100Hz offset
- Single Positive Supply +5V
- Regulated Voltage Supply
- Hermetically Sealed Module
- Mil Spec Compliant
- Field Replaceable 2.4mm Connectors
- -55°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.

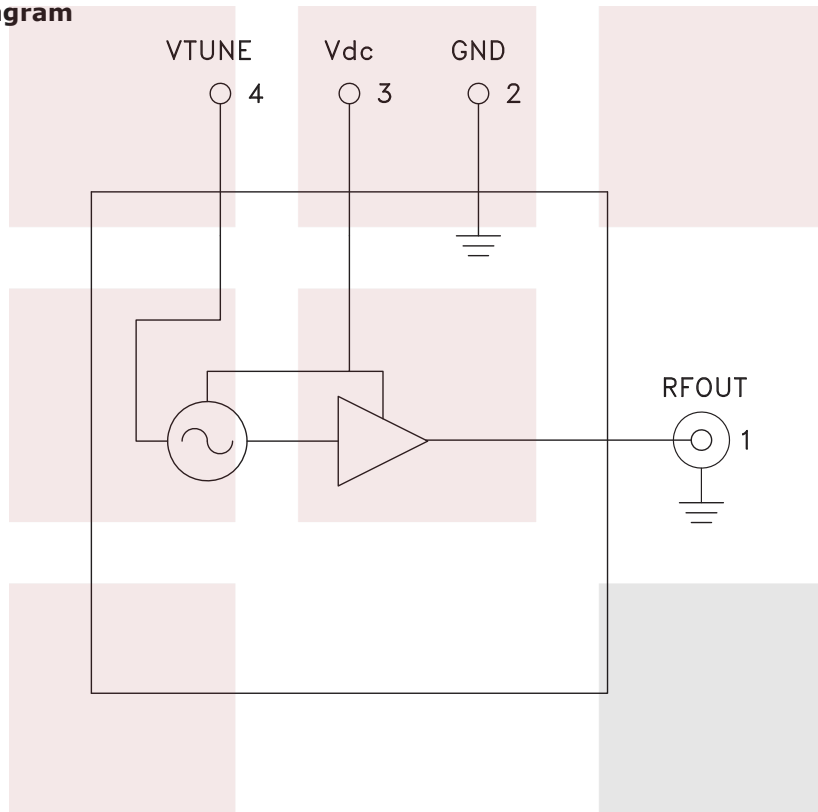


Compliance Certifications (see [product page](#) for current document)

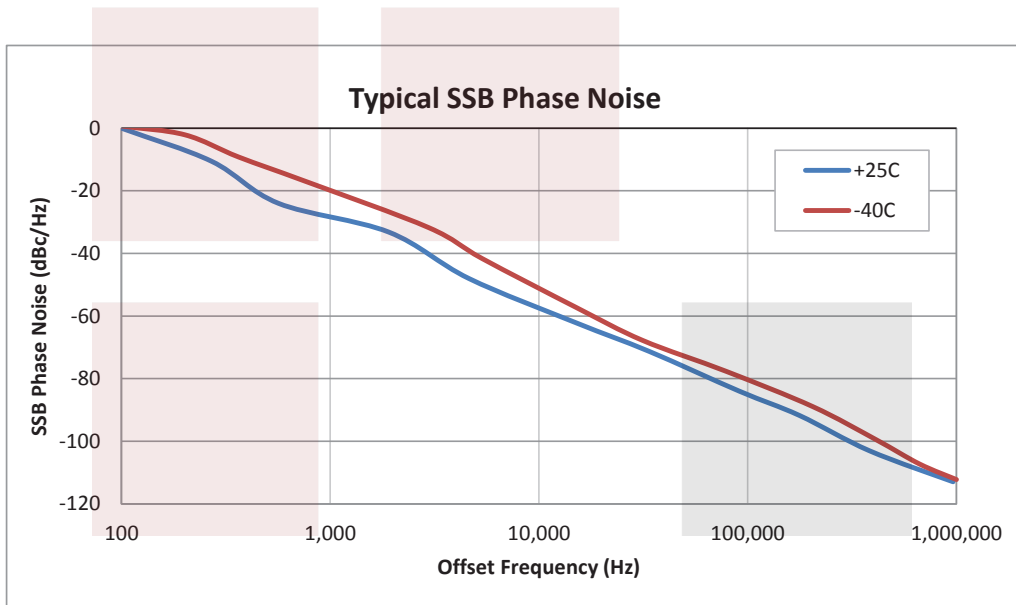
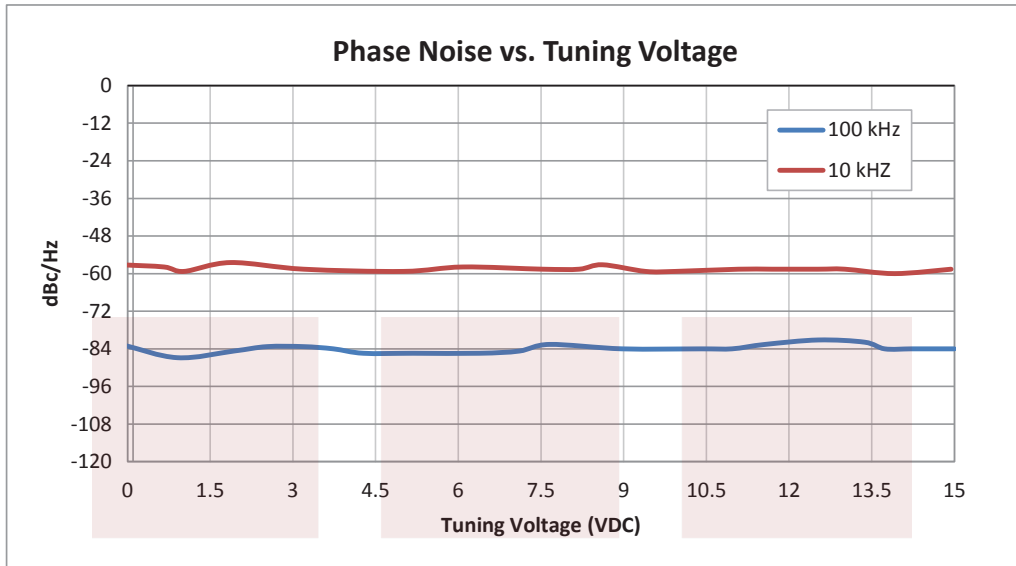
Plotted and Other Data

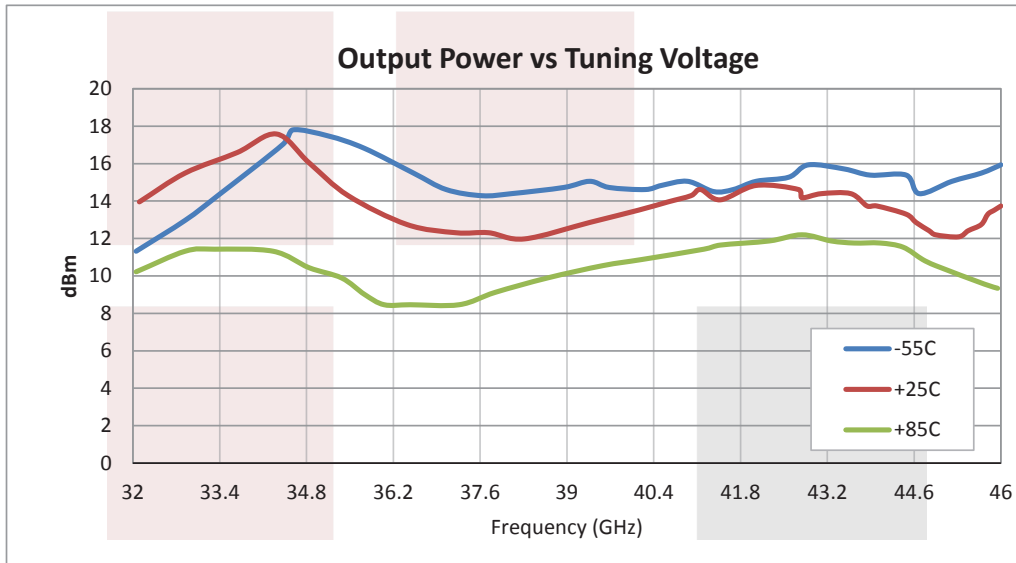
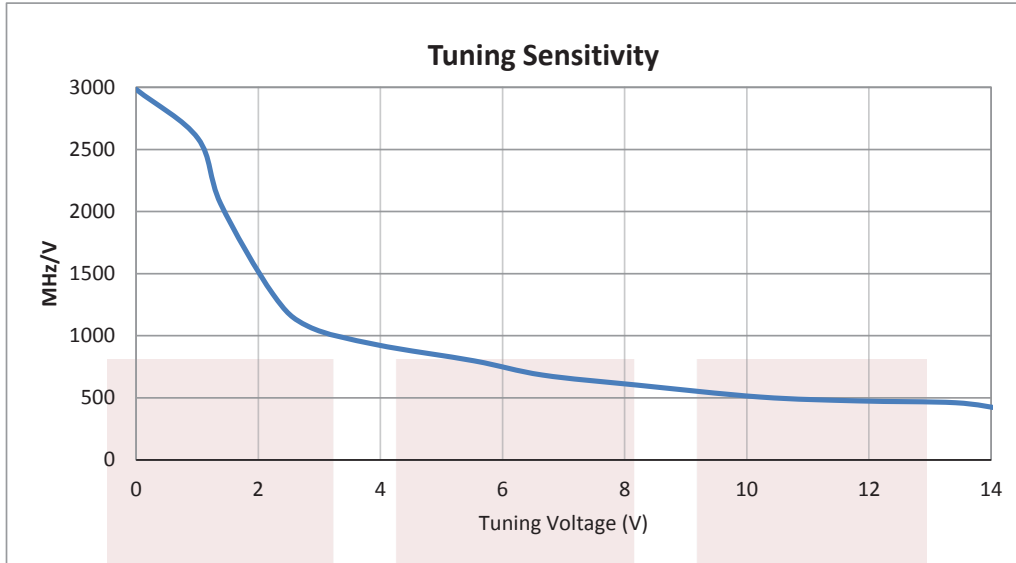
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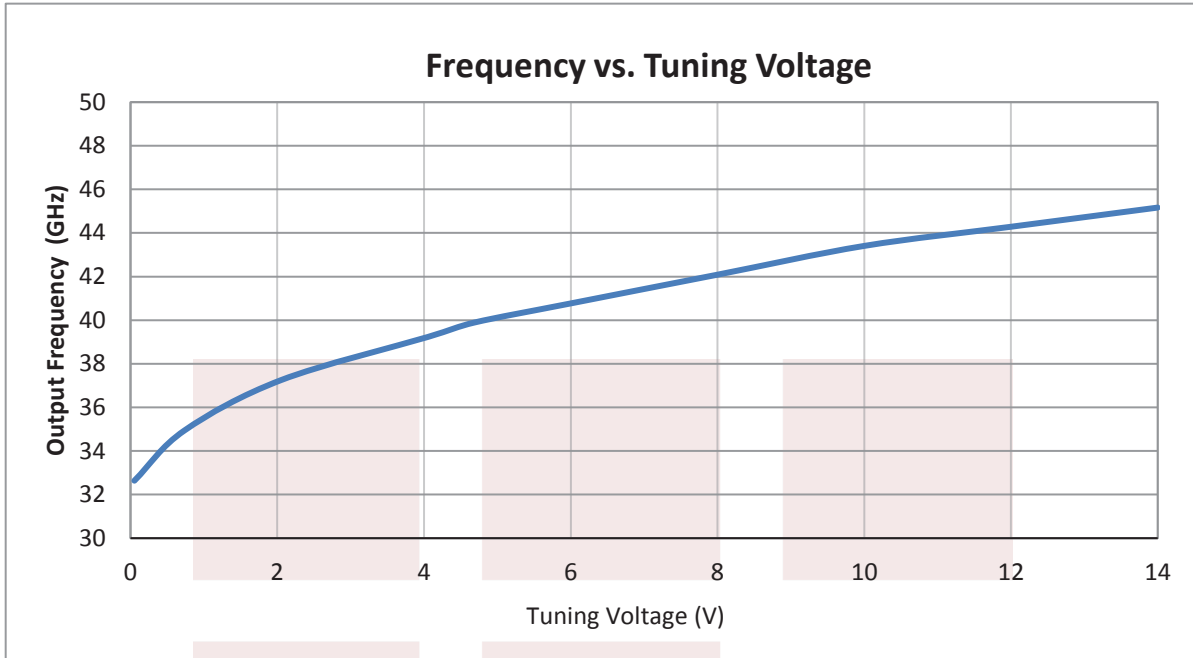
Functional Block Diagram



Typical Performance Data





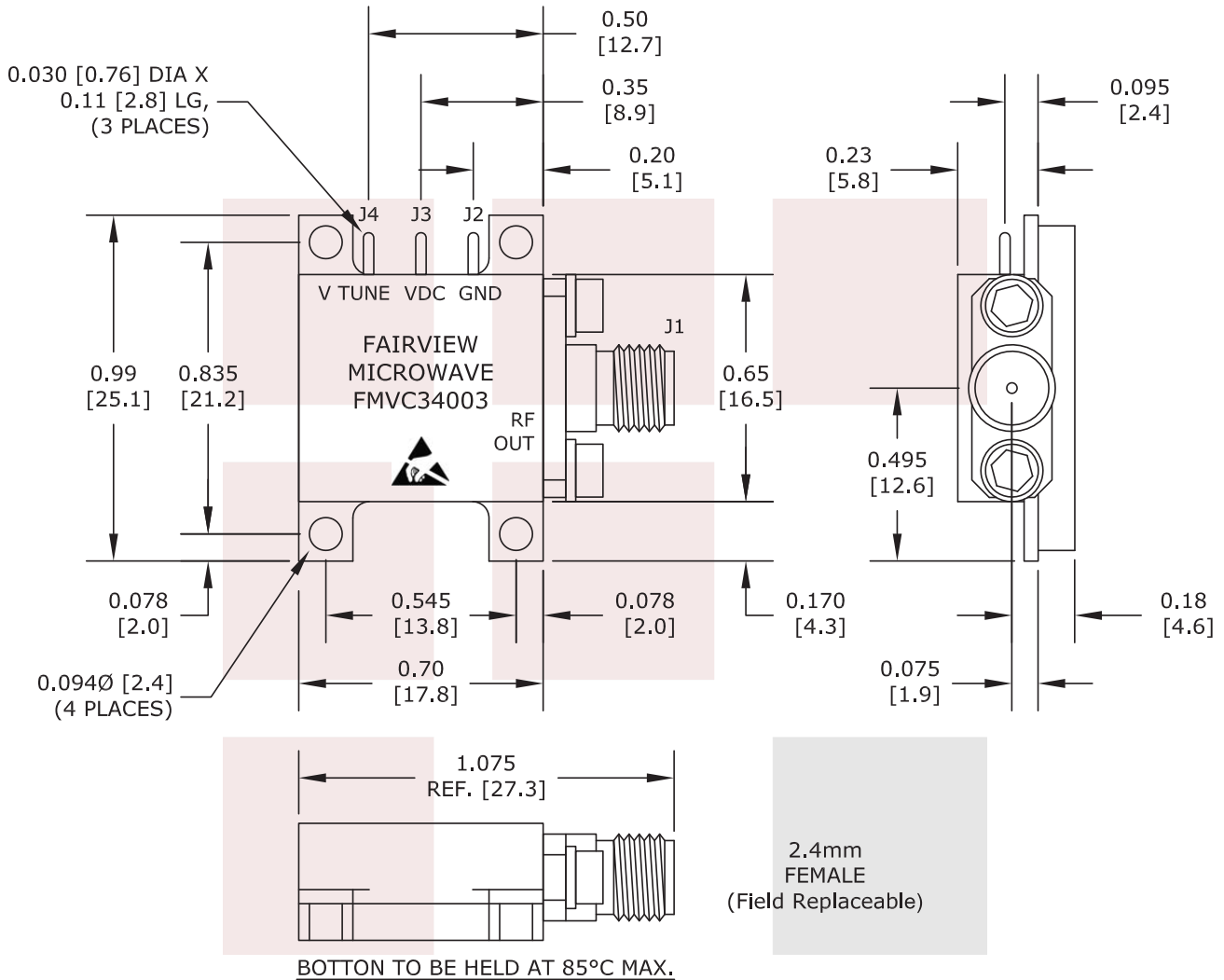


VCO (Voltage Controlled Oscillator) Hi-REL Hermetic Frequency of 38.4 GHz to 43.2 GHz, Phase Noise -98 dBc/Hz and 2.4mm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, 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 38.4 GHz to 43.2 GHz, Phase Noise -98 dBc/Hz and 2.4mm FMVC34003](#)

URL: <https://www.fairviewmicrowave.com/vco-voltage-controlled-oscillator-connectorized-module-error-fmvc34003-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 38.4 GHz to 43.2 GHz, Phase Noise -98 dBc/Hz and 2.4mm		DWG NO FMVC34003		CAGE CODE 3FKR5	
CAD FILE	040616	SHEET	SCALE	N/A	SIZE A 2233