

SOV-96305216-10-G1

W-Band Varactor Tuned Gunn Oscillator, 96 GHz, 250 MHz Tuning Bandwidth

SOV-96305216-10-G1 is a W-Band, Varactor tuned Gunn oscillator that utilizes a high performance GaAs Gunn diode and proprietary cavity design to deliver +16 dBm typical power. The oscillator features a Varactor tuning range of ± 250 MHz and delivers low AM/FM noise and harmonic emissions. Compared to its counterparts, such as multiplier based sources, the Gunn oscillator is a lower cost and cleaner source. The performance of the oscillator can be further enhanced by adding an isolator, Gunn oscillator modulator/regulator and temperature heater.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Center Frequency	95.75 GHz	96.0 GHz	96.25 GHz
Power Output	+15 dBm	+16 dBm	
Varactor Tuning Range		± 250 MHz	
Bias Voltage		+3.8 V _{DC}	+3.9 V _{DC}
Bias Current		850 mA	
Varactor Tuning Voltage Range	+4.0 V _{DC}		+25.0 V _{DC}
Specification Temperature		+25°C	
Operating Temperature	0°C		+50°C

Mechanical Specifications:

Item	Specification
RF Port	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
Bias Port	Soldered Pins
Tuning Port	SMA (F)
Housing Material	Aluminum
Finish	Gold Plated
Weight	3.0 Oz
Outline	OV-SW-A-C-2

ECCN

EAR99

FEATURES

- Low AM/FM Noise and Harmonics
- Parallel Configuration

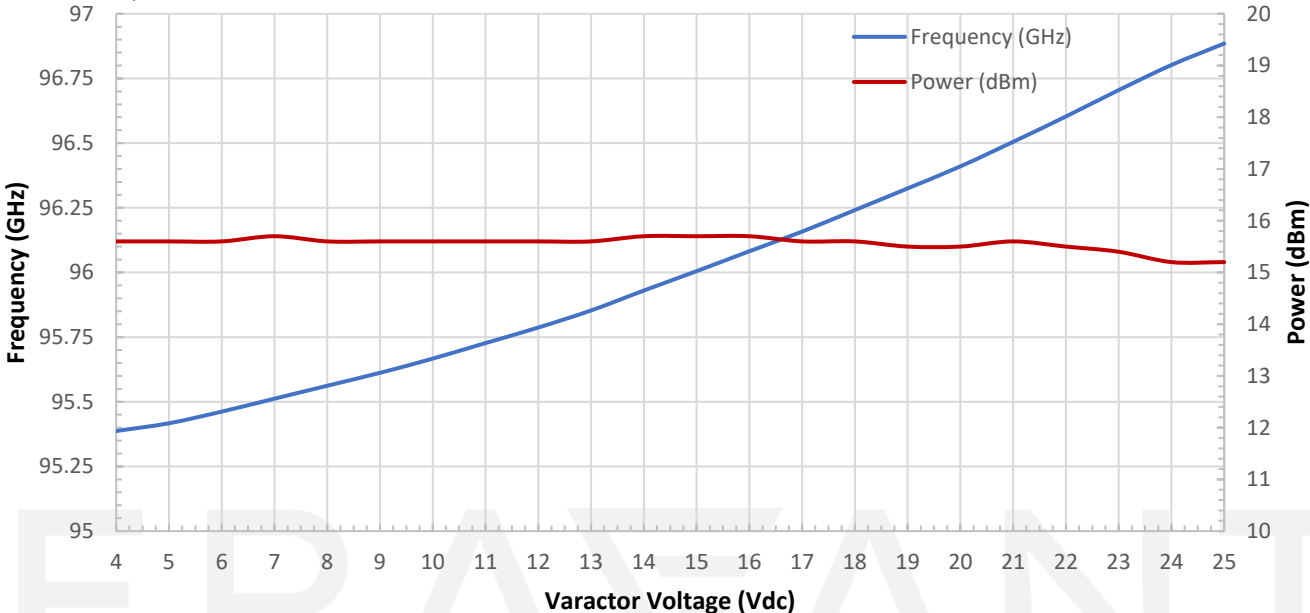
APPLICATIONS

- Test Sources
- Signal Generations
- FMCW Radar Systems
- Communication Systems

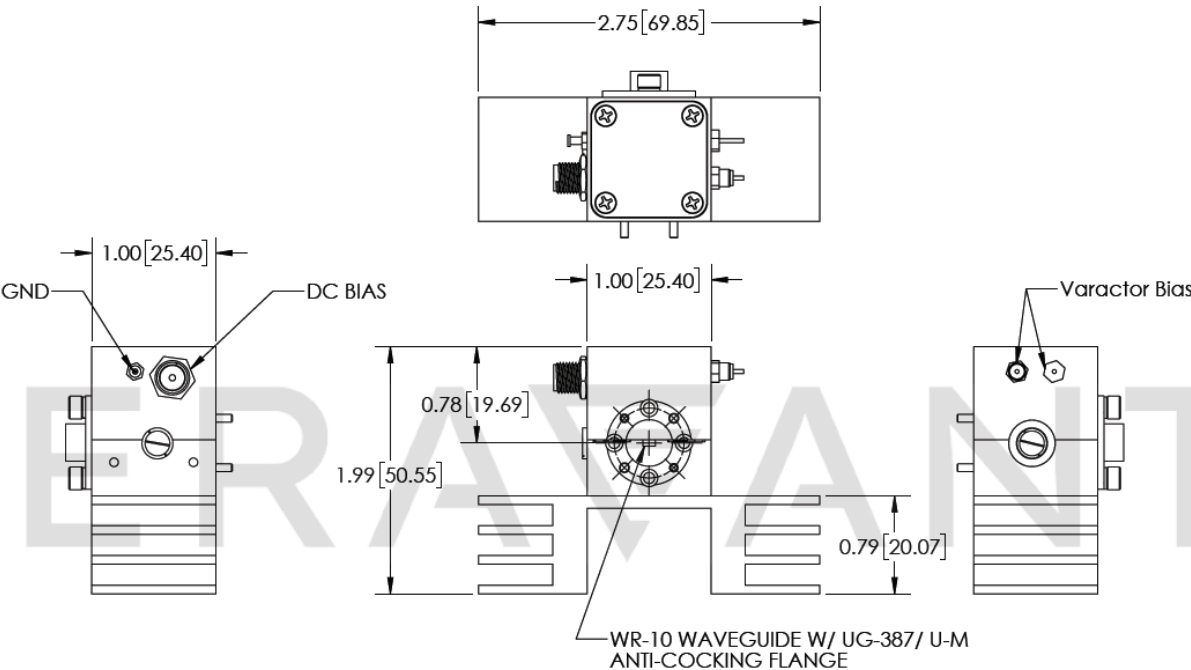
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Typical Frequency and Power Output vs. Varactor Voltage

Bias: +3.8 Vdc/850 mA



Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



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NOTE:

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under **+35 °C** room temperature.
- The Eravant Gunn Oscillator regulator **SOR-R3** is highly recommended for over voltage and reverse bias protection. The outline of the model, SOR-R3, is shown below.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Reversing polarity will destroy the device.
- Gunn diode bias voltage should never exceed **+3.9 Volts** and Varactor bias voltage should never exceed **+25 Volts**.
- The case temperature of the device should never exceed **+50 °C**. Use an additional heatsink or fan if necessary.
- Any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.92 ± 0.05 Nm), should be applied. **Eravant torque wrench, model SCH-08008-S1, is highly recommended.**

Appendix: Outline of the Gunn Oscillator Regulator Model, SOR-R3

