

SOM-63305217-15-S1

62.5 GHz Mechanically Tuned Gunn Oscillator, 500 MHz Tuning Bandwidth

SOM-63305217-15-S1 is a 62.5 GHz, mechanically tuned Gunn oscillator that utilizes a high-performance GaAs Gunn diode and proprietary cavity design to deliver +17 dBm typical power. The oscillator offers ± 250 MHz frequency tuning range 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 Gunn oscillator's frequency can also be tuned by varying the bias voltage, which is useful for phase-locking and electrical-tuning applications. The Gunn oscillator is equipped with a self-locking set screw for frequency trimming. Models with a micrometer for lab and test bench applications are available under a different model number. The performance of the oscillator can be further enhanced by adding an optional isolator, Gunn oscillator modulator/regulator and temperature heater.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Center Frequency		62.5 GHz	
Output Power		+17 dBm	
Mechanical Tuning Range		± 250 MHz	
Bias Tuning Range (+4.5 to +5.5 VDC)		± 100 MHz	
Bias Voltage		+5.5 VDC	+6.0 VDC
Bias Current		750 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
RF Port	WR-15 Waveguide with UG-385/U Anti-cocking Flange
External Bias	SMA (F)
Mechanical Tuning	Self-Locking Set Screw
Body Material	Aluminum
Finish	Gold Plated
Weight	3.0 Oz
Outline	OM-SV-A-C

ECCN

EAR99

FEATURES

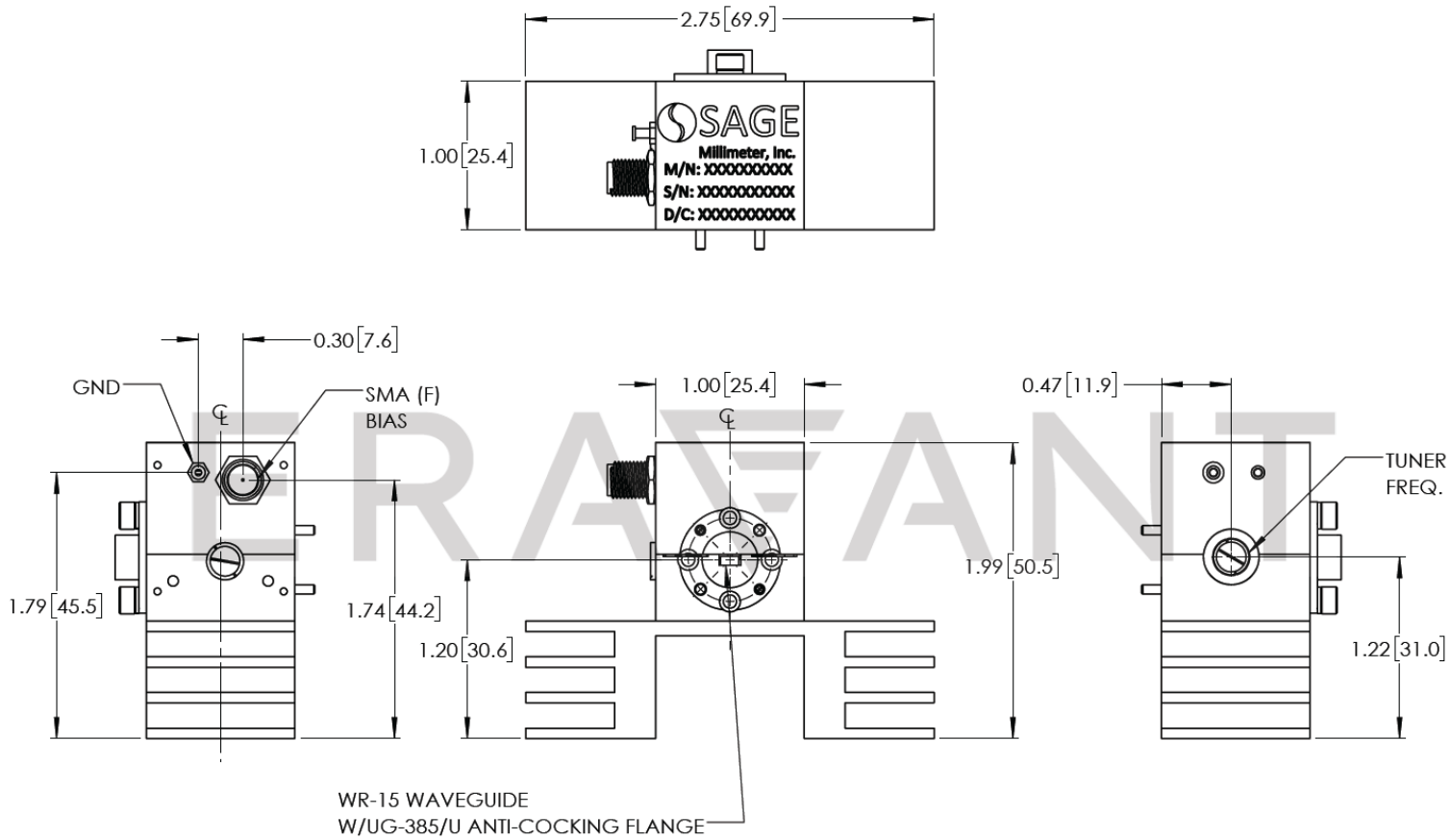
- Low AM/FM Noise and Harmonics
- Bias Tunable

APPLICATIONS

- Test Sources
- Signal Generation
- Lab Test Setups

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



NOTE:

- 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 in below.
- The bias tuning feature can be used for electrical tuning and phase lock loop applications.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Any foreign objects in the waveguide will degrade performance and/or damage the device.
- Reversing polarity will destroy the device.
- The oscillator is factory set to operate around 62.5 GHz center frequency. The self-locking set screw is for frequency trimming only. It is not designed for frequent frequency tuning.
- Bias voltage should never exceed **+6.0 Volts**.
- The case temperature of the device should never exceed **+50°C**. Use an additional heatsink or fan if necessary.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model **SCH-08008-S1** is highly recommended.

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

