



V-Band Bias Tuned Gunn Oscillator, 60.0 GHz, ± 250 MHz, +17 dBm

Description:

Model SOB-60305217-15-S1 is a V-Band, bias tuned Gunn oscillator with a center frequency of 60 GHz and a tuning range of ± 250 MHz. The Gunn oscillator utilizes a high-performance GaAs Gunn diode and proprietary cavity design to deliver +17 dBm typical power directly. The advantages of implementing bias tuned oscillator are the lower cost and consistent frequency tuning linearity which are both desirable for volume production. The oscillator also delivers low AM/FM noise and harmonic emissions in the wide mechanical and bias tuning range. Compared to its counterparts, such as multiplier-based sources, the Gunn oscillator is an alternative lower cost and cleaner source. The center frequency of the oscillator can be mechanically trimmed via a self-locking set screw within ± 1.0 GHz frequency range.



Features:

- Low AM/FM Noise and Harmonics
- Mechanical Tunable
- Temperature Range: 0 to +50 °C

Applications:

- Test Sources
- Signal Generation
- FMCW Radar

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Center Frequency		60.0 GHz	
Bias Tuning Range		± 250 MHz	
Output Power	+16 dBm	+17 dBm	
Mechanical Tuning Range		± 1.0 GHz	
Bias Tuning Voltage Range	+4.0 V _{DC}		+6.0 V _{DC}
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
Bias and Tuning Port	SMA (F) and Solder Pin
Mechanical Tuning Mechanism	Self-Locking Set Screw
Housing Material	Aluminum
Finish	Gold Plated
Weight	3.0 Oz
Outline	OM-MV-A-C

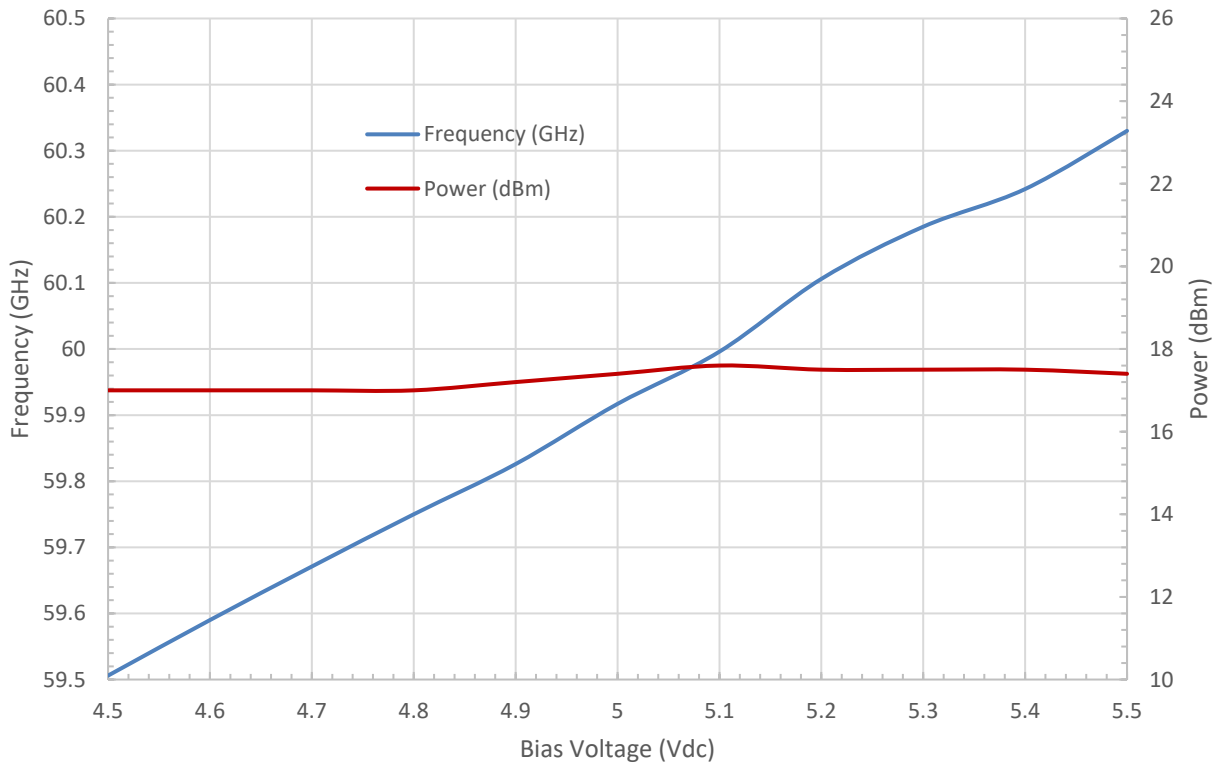
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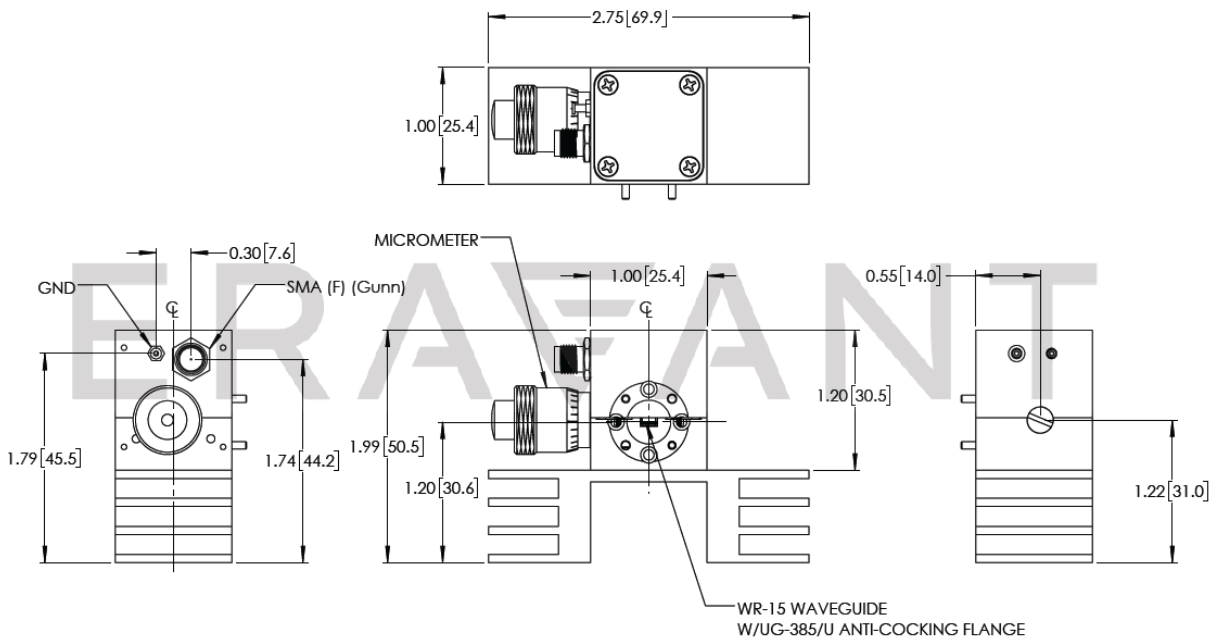
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Typical Frequency and Power Output vs. Bias Voltage

Bias: +4.5 to +5.5 Vdc/750 mA



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





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Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- The data given above was tested under case temperature **+35 °C**.
- The bias tuning feature is used for electrical tuning and phase lock loop applications.
- The tuning speed can be improved per request.
- The mechanical tuning feature is provided for frequency trimming only. To tune the oscillator more than the specified bandwidth mechanically will damage or degrade the oscillator.
- Eravant reserves the right to change the information presented without notice.

Caution:

- Reversing polarity will destroy the device.
- Bias voltage never **exceeds +6.0 Volts**.
- Keep fan on if necessary. The case temperature shall never exceed **+55 °C**.

