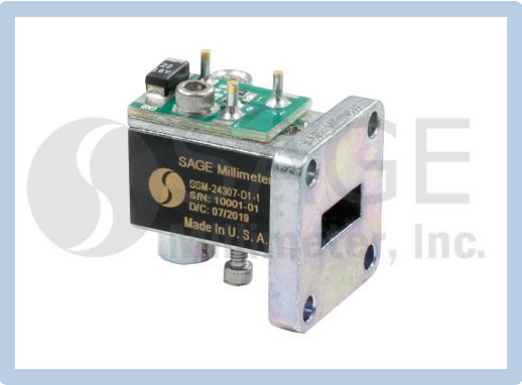
SOL-24307-42-GV

Rev. 1.0

K-Band Volume Production Varactor Tuned Oscillator, 24 GHz, +7 dBm

Description:



Model SOL-24307-42-GV is a volume-production ready, K Band Varactor tuned Gunn oscillator that utilizes high performance GaAs Gunn and Varactor diodes, optimized in the high Q cavity, to achieve excellent phase noise and power stability. The oscillator delivers +7 dBm output power at 24.125 GHz with an electrical tuning bandwidth of ±150 MHz. The center frequency of the oscillator can be mechanically trimmed by using the self-locking set screw provided. The oscillator takes nominal +5 V_{DC}/250 mA DC power.

Features:

- Low Cost and Production Ready
- Mechanical tuning ability
- Low AM/FM Noise and Harmonics
- High Frequency and Power Stability

Applications:

- Traffic Control Systems
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Center Frequency		24.125 GHz	
Power Output	+5 dBm	+7 dBm	
Mechanical Tuning Range		±50 MHz	±100 MHz
Electrical Tuning Range	±100 MHz	±150 MHz	
Electrical Tuning Voltage	0 Volts	0 to +20 Volts	+25 Volts
Harmonic Emissions		-20 dBc	
Phase Noise @ 100 KHz offset		-95 dBc/Hz	
Frequency Stability		-1.5 MHz/°C	
Power Output Stability		-0.03 dB/°C	
Bias Voltage		+5 V_{DC}	+6 V_{DC}
Bias Current		250 mA	
Specification Temperature		+25 ˚C	
Operating Temperature	-40 ˚C		+85 ˚C

Mechanical Specifications:

Item	Specification
RF Port	WR-42 Waveguide with UG-595/U Flange
Cavity Material	Die Casted Zink
Finish	ZaMAK
Weight	1 Oz
Outline	OL-K1

www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505
Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com

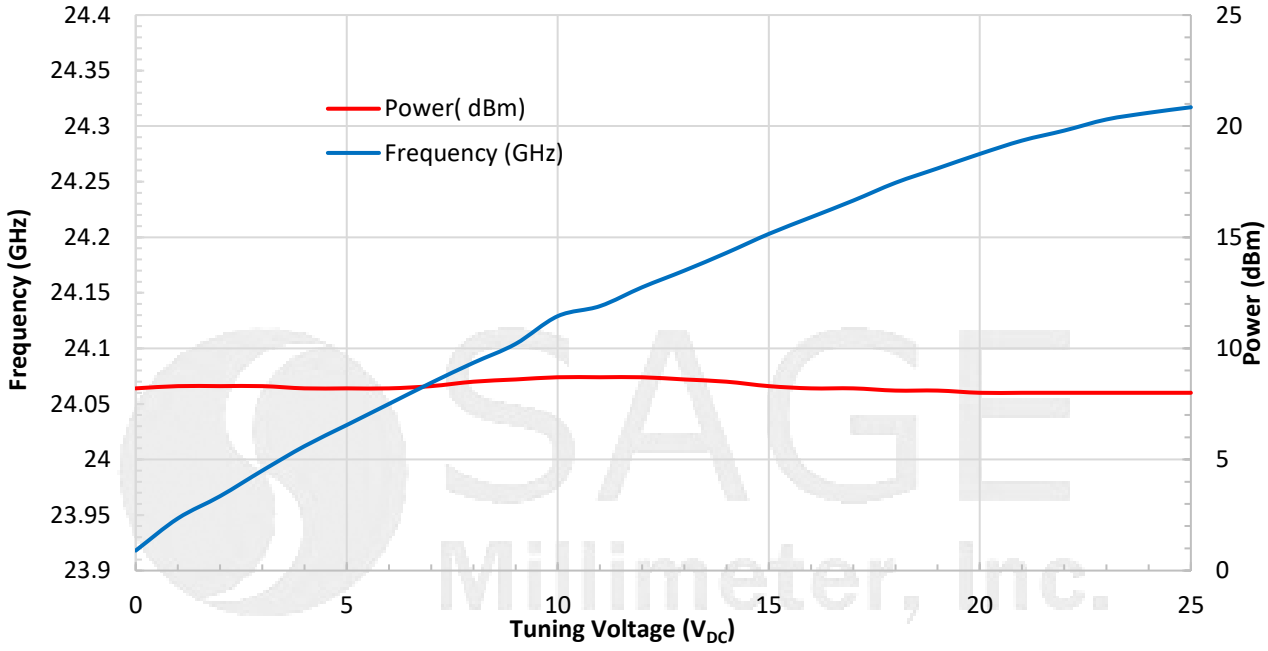
Copyright © 2018 by SAGE Millimeter, Inc.

SAGE Millimeter, Inc.

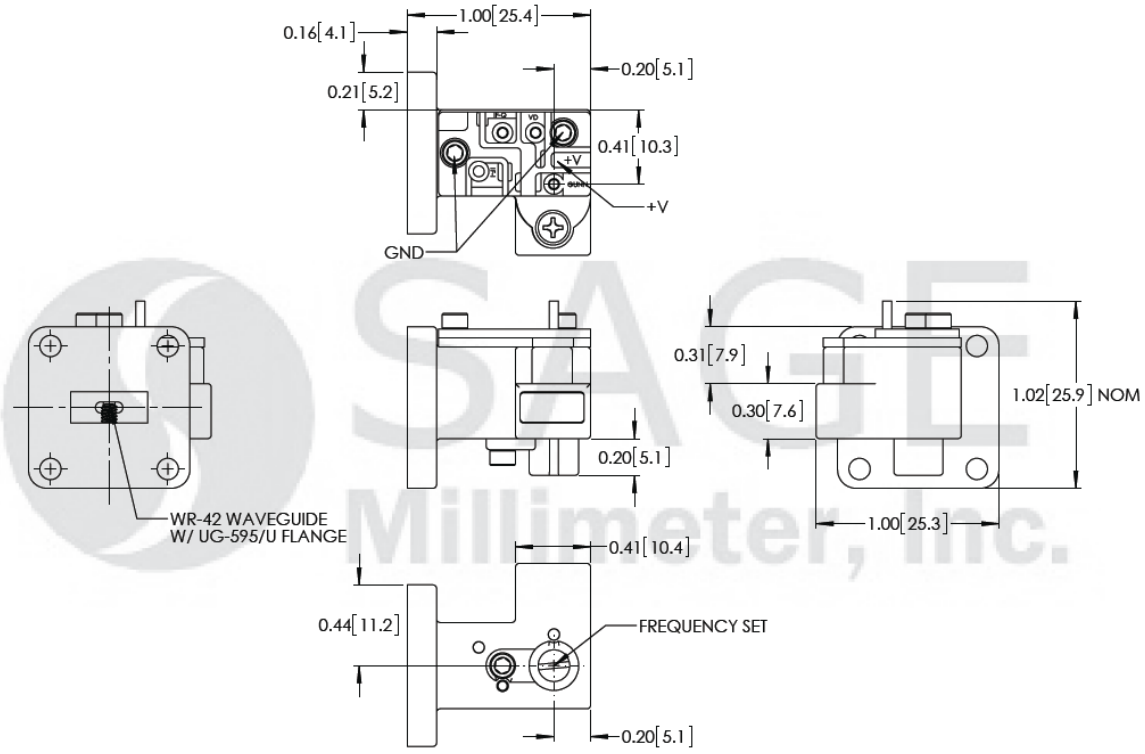
K-Band Volume Production Varactor Tuned Oscillator, 24 GHz, +7 dBm

Frequency and Power Output vs. Tuning Voltage

Bias: +5 V_{DC}/173 mA



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



www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505
Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com

Copyright © 2018 by SAGE Millimeter, Inc.

SAGE Millimeter, Inc.

K-Band Volume Production Varactor Tuned Oscillator, 24 GHz, +7 dBm

Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit slightly.
- All testing was performed under **+25 ˚C** case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Reversing polarity bias will destroy the device.
- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.
- The case temperature of the device shall never exceed **+85 ˚C**. Use an additional heatsink or fan if necessary.

SAGE Millimeter, Inc.

www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505
Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com

Copyright © 2018 by SAGE Millimeter, Inc.

SAGE Millimeter, Inc.