SOL-45316-22-G1

Rev. 1.1

Q-Band Volume Production Oscillator, 45 GHz, +16 dBm

Description:

Model SOL-45316-22-G1 is a volume-production ready, Q Band Gunn oscillator that utilizes a high performance GaAs Gunn diode and high Q cavity to achieve excellent phase noise and power stability. The oscillator is designed for fixed frequency applications; however, the frequency can be adjusted by ±1 GHz by using the self-locking set screw provided. The performance of the oscillator can be further enhanced by adding optional isolator and heater.

Features:

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

Applications:

- Test Setups
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Center Frequency		45 GHz	
Power Output	+14 dBm	+16 dBm	
Mechanical Tuning Range	±500 MHz	±1,000 MHz	
Harmonic Emissions		-20 dBc	
Phase Noise @ 100 KHz offset		-85 dBc/Hz	
Frequency Stability		-1.5 MHz/°C	
Power Output Stability		-0.03 dB/°C	
Bias Voltage		+3.5 V_{DC}	+4.5V_{DC}
Bias Current		800 mA	
Specification Temperature		+25 ˚C	
Operating Temperature	-40 ˚C		+85 ˚C

Mechanical Specifications:

Item	Specification
RF Port	WR-22 Waveguide with UG-599/U Flange
Cavity Material	Aluminum
Finish	Chem Film
Weight	0.6 Oz
Outline	OL-Q

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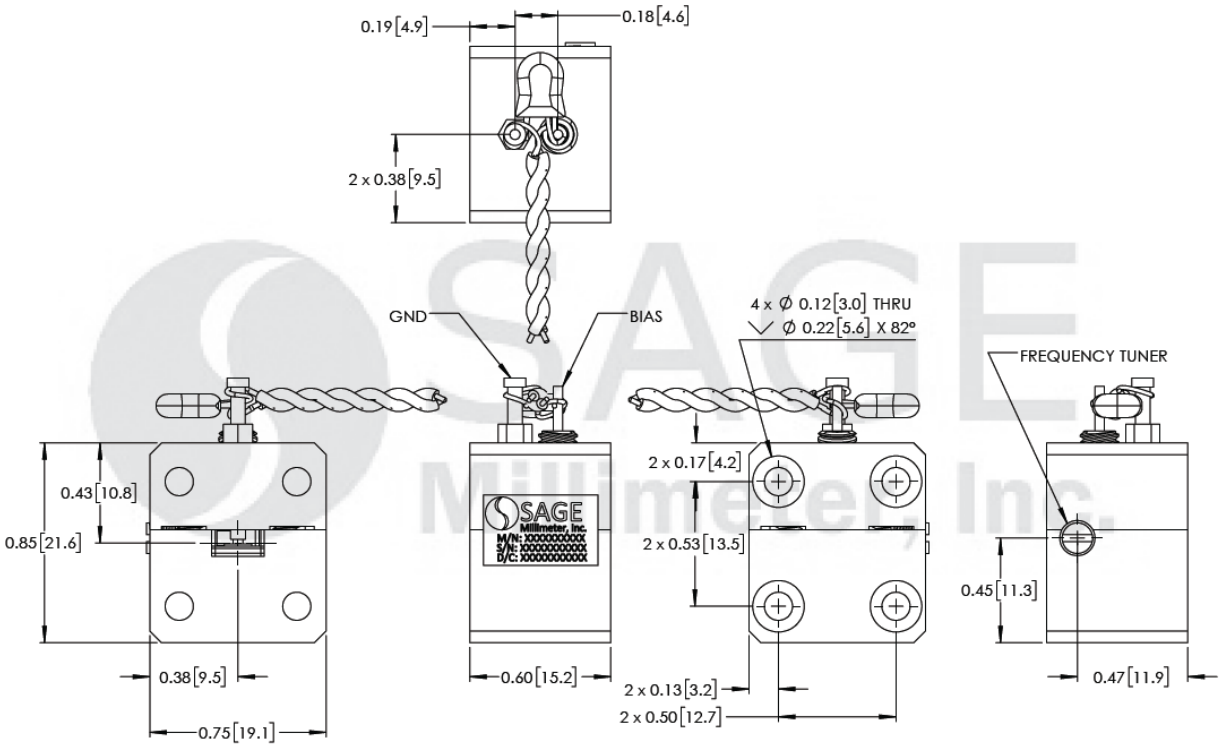
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.
- The center frequency can be set at any frequency point in the range of 44 to 46 GHz.

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.

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