

## Ka-Band Volume Production Oscillator, 35 GHz, +17 dBm, $\pm 3.0$ GHz

### Description:

**Model SOL-35318-28-G1-2** is a volume-production ready, Ka 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  $\pm 3.0$  GHz using the self-locking set screw provided.



### 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		35 GHz	
Power Output	+16 dBm	+17 dBm	
Mechanical Tuning Range	$\pm 2$ GHz	$\pm 3$ GHz*	
Harmonic Emissions		-20 dBc	
Phase Noise @ 100 KHz offset		-95 dBc/Hz	
Frequency Stability			-0.3 MHz/ $^{\circ}$ C
Power Output Stability			-0.03 dB/ $^{\circ}$ C
Bias Voltage		+5.5 V <sub>DC</sub>	+6 V <sub>DC</sub>
Bias Current		650 mA	
Specification Temperature		+25 $^{\circ}$ C	
Operating Temperature	-40 $^{\circ}$ C		+85 $^{\circ}$ C

Note: Actual tuning bandwidth is wider,  $\pm 3.5$  GHz typical.

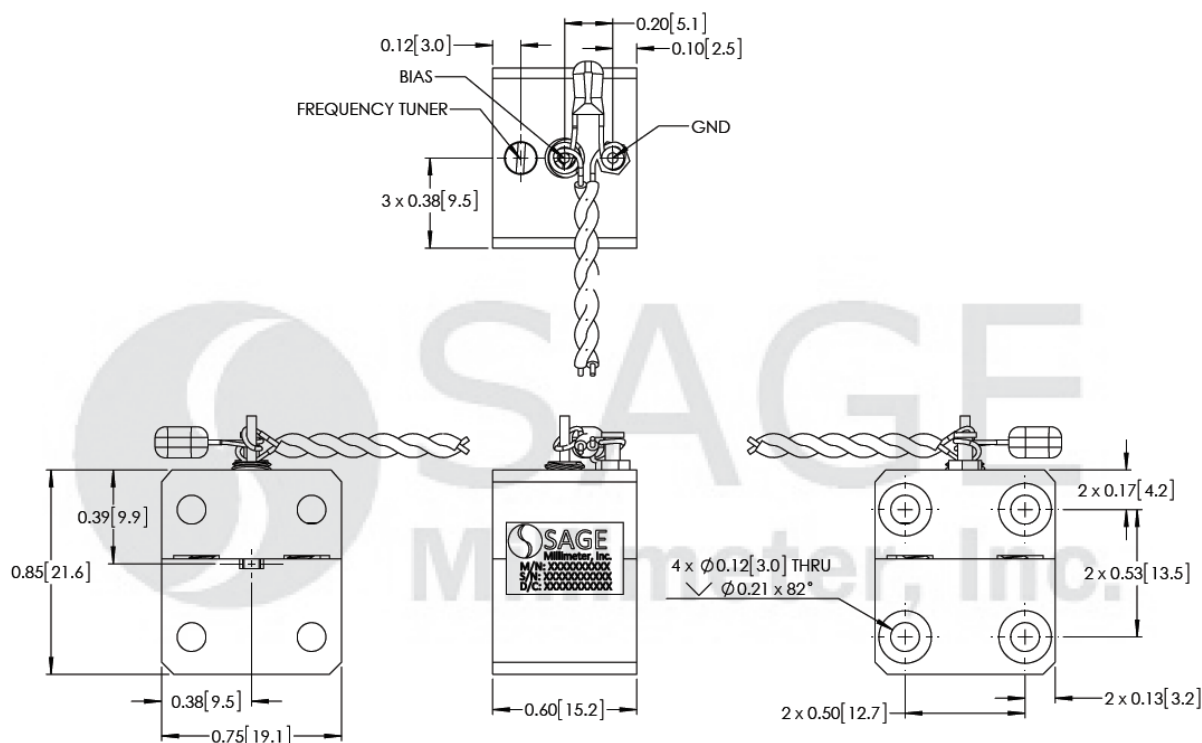
### Mechanical Specifications:

Item	Specification
RF Port	WR-28 Waveguide with UG-599/U Flange
Cavity Material	Aluminum
Finish	Chem Film
Weight	0.6 Oz
Outline	OL-A1



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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 33 to 35 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.