



## Ka-Band Volume Production Oscillator, 30 GHz, +15 dBm

### Description:

**Model SOL-30315-28-G1** 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  $\pm 1$  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             |                  | 30 GHz               |                        |
| Power Output                 | +13 dBm          | +15 dBm              |                        |
| Mechanical Tuning Range      |                  | $\pm 1$ 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       |

### Mechanical Specifications:

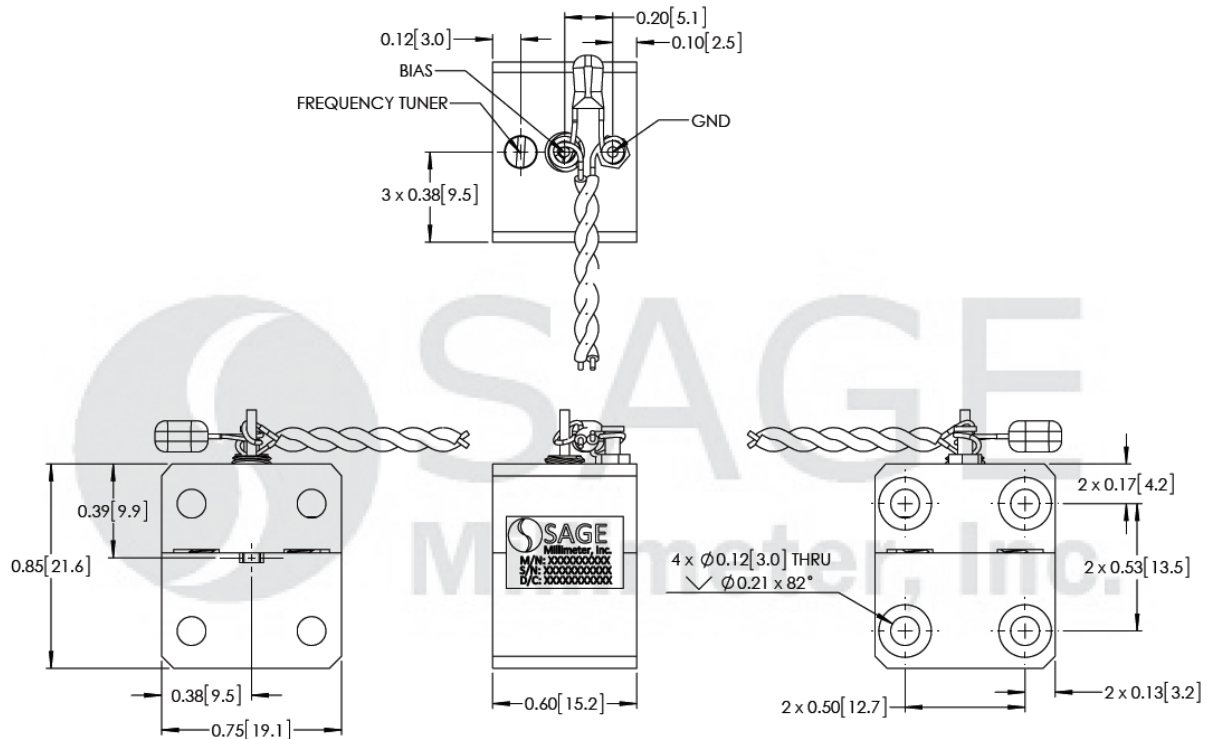
| Item            | Specification                        |
|-----------------|--------------------------------------|
| RF Port         | WR-28 Waveguide with UG-599/U Flange |
| Cavity Material | Aluminum                             |
| Finish          | Chem Film                            |
| Weight          | 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 32 to 37 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.

