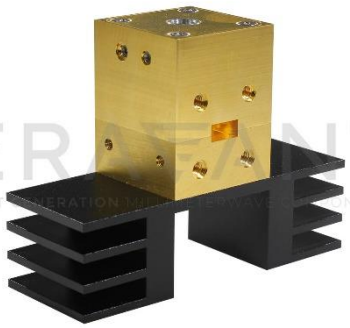
SOM-35302313-28-S1

Ka-Band Mechanically Tuned Gunn Oscillator



SOM-35302313-28-S1 is a Ka-Band, mechanically tuned bandwidth Gunn oscillator that utilizes a high-performance GaAs Gunn diode and proprietary cavity design to deliver +13 dBm typical power with low AM/FM noise and harmonic emissions. The oscillator has a center frequency of 35 GHz and a mechanical tuning range of ±1000 MHz. Compared to its multiplier based counterparts, the Gunn oscillator is a lower cost alternative and a cleaner source. The “S1” Gunn oscillator model is equipped with a self-locking set screw for frequency tuning. Models with a micrometer for quick frequency tuning and test bench applications are available under model number with a “M1” affix for use in system integration applications. The performance of the oscillator can be further enhanced by adding an optional integrated isolator, Gunn oscillator modulator/regulator, and temperature heater.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Center Frequency		35 GHz	
Power Output		+13 dBm	
Mechanical Tuning Range		±1000 MHz	
Bias Voltage		+5.5 V_{DC}	+6 V_{DC}
Bias Current		550 mA	
Specification Temperature		+25°C	
Operating Temperature	0°C		+50°C

Mechanical Specifications:

Item	Specification
RF Ports	WR-28 Waveguide with UG-599/U Flange
Bias Port	SMA (F)
Case Material	Aluminum
Finish	Gold Plated
Weight	3.2 Oz
Outline	OM-SA-C

ECCN

EAR99

FEATURES

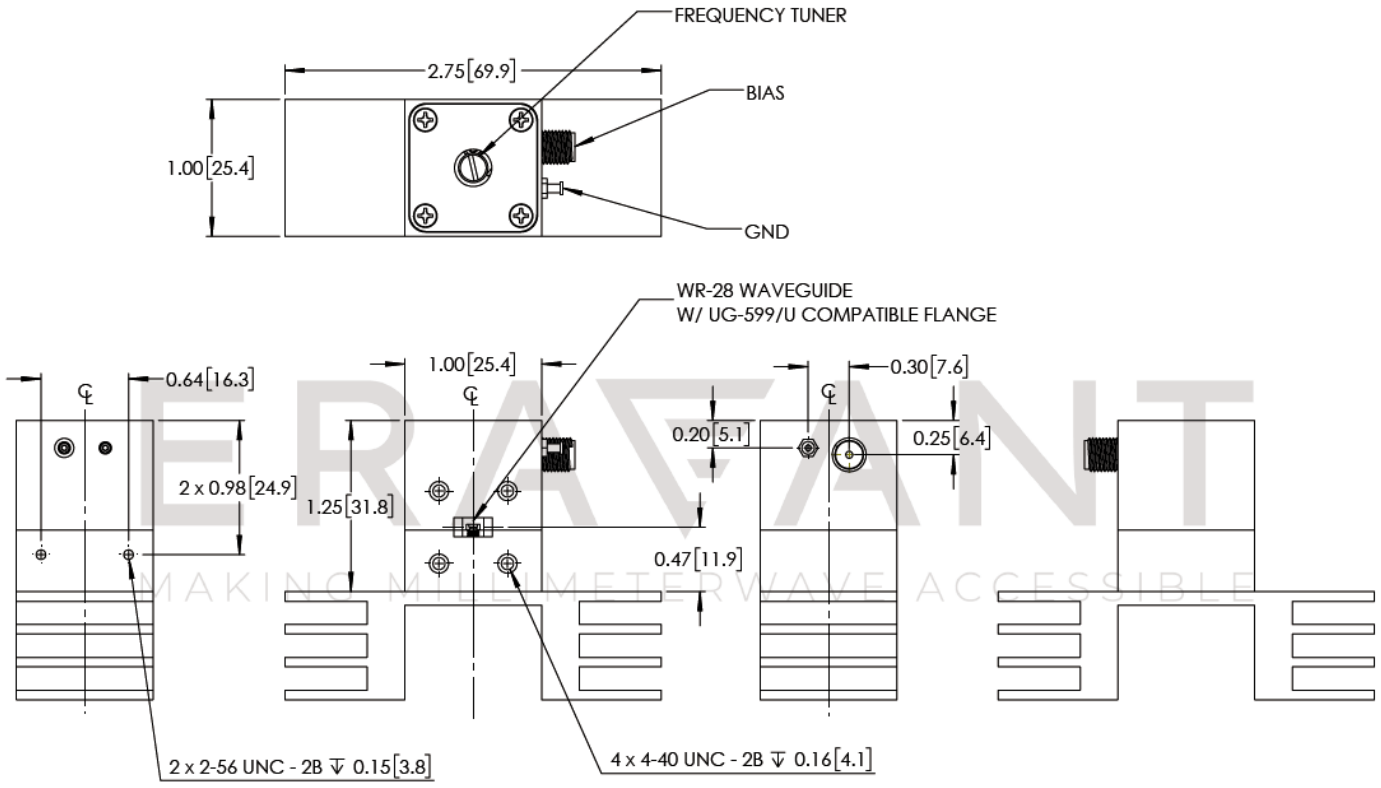
- Low AM/FM Noise and Harmonics
- Broad Mechanical Tuning Bandwidth

APPLICATIONS

- Test Source
- Signal Generation
- Lab Test Setups

SUPPLEMENTAL DETAILS

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



NOTE:

- All data presented is collected from a sample lot. It is for illustration only. Actual data varies unit to unit.
- The data given above was tested under case temperature **+35 °C**.
- Eravant Gunn oscillator regulator, **SOR-R3**, is highly recommended to prevent the Gunn oscillator damage due to possible over voltage and/or reverse bias. The outline of the regulator is shown in the appendix section below.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Reversing polarity bias will destroy the device
- Exceeding absolute maximum rating shown will damage the device
- The case temperature of the device should not exceed **+50 ˚C**. Use an additional heatsink or fan if necessary.
- When handling coax connectors, proper torque, **8.0 ± 0.4 inch-pounds (0.90 ± 0.02 Nm)**, should be applied. Eravant torque wrench, model **SCH-08008-S1**, is highly recommended.
- 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.

Appendix: Outline of Gunn Oscillator Regulator, Model SOR-R3