

# GW-12-78.5-15-13

## E-Band Wide Mechanical Tuning Bandwidth Gunn Oscillator, 71 to 86 GHz

### Description:

**Model GW-12-78.5-15-13** is a E-Band, wide mechanical tuning 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 78.5 GHz and a mechanical tuning range of  $\pm 7.5$  GHz. Compared to its multiplier-based counterparts, the Gunn oscillator is a lower cost alternative and a cleaner source. The Gunn oscillator is equipped with a two independent micrometers. The frequency micrometer allows adjustment of frequency; the power micrometer allows optimization of output power. A small amount of bias voltage will provide electronic frequency tuning. The performance of the oscillator can be further enhanced by adding an optional integrated isolator, Gunn oscillator modulator/regulator, and temperature heater.



### Features:

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

### Applications:

- Test Sources
- Signal Generation
- Lab Test Setups

### Electrical Specifications:

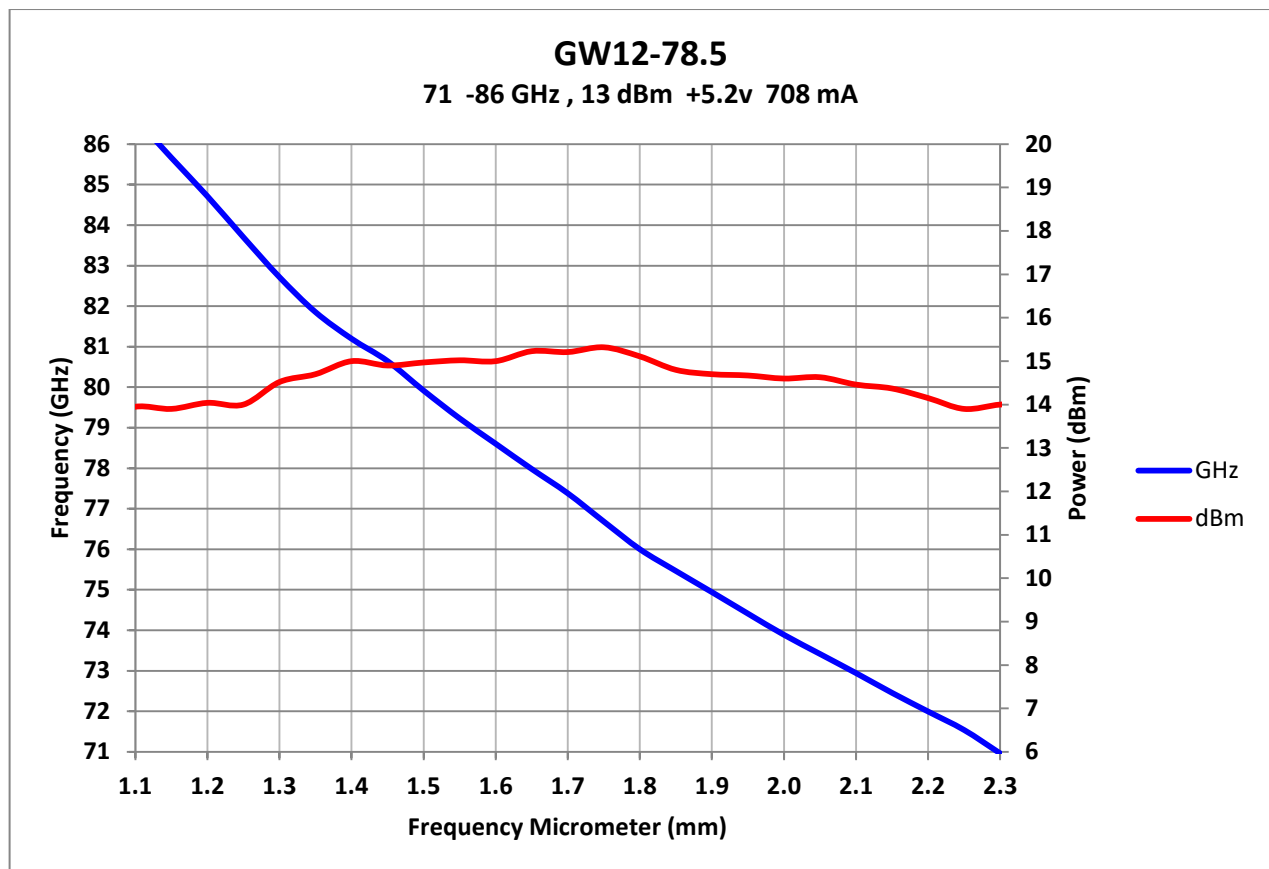
Parameter	Minimum	Typical	Maximum
Center Frequency		78.5 GHz	
Mechanical Tuning Range		$\pm 7.5$ GHz	
Output Power		13 dBm	
Bias Voltage		+5.2 V <sub>DC</sub>	+5.8 V <sub>DC</sub>
Bias Current		1.0 A	
Specification Temperature		+30 °C	
Case Temperature	+10 °C		+50 °C

### Mechanical Specifications:

Item	Specification
RF Port	WR-12 Waveguide with UG-387/U-M Flange
Bias Port	SMA (F)
Case Material	Aluminum
Finish	Natural
Weight	230 g
Size	30 (W) X 30 (L) x 77 ( H)      mm
Outline	GW-DT-1

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### 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.
- Always set micrometer reading to around 78.5 GHz when turning on the oscillator to ensure correct mode operation.
- Reserves the right to change the information presented without notice.

### Caution:

- Reversing polarity will destroy the device.
- Bias voltage should not exceed +5.8 Volts.
- The case temperature of the device should not exceed +55 C. Use an additional heatsink or fan if necessary.
- When handling coax connectors, proper torque,  $8.0 \pm 0.4$  inch-pounds ( $0.90 \pm 0.02$  Nm), should be applied.

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**Mechanical Outline:** (Unless otherwise specified, all dimensions are in millimeters)

