

Varactor Controlled Oscillator

12.68 - 13.18 GHz

MA87856

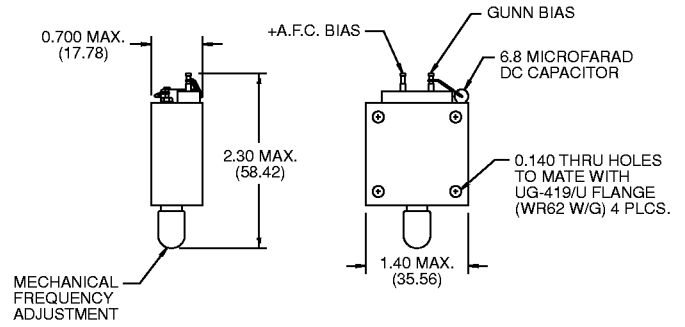
V2.00

Features

- Small and Lightweight
- Low AM and FM Noise
- Electronic Tuning Allows Automatic Frequency Control (AFC)
- Suitable for Digital or Analog Microwave Radio Applications

Description

A mechanically and electronically tunable Gunn oscillator designed to generate RF power in the range of 12.68 to 13.18 GHz. This VCO is suitable as the local oscillator in a receiver assembly for a point-to-point microwave radio. A Gunn diode and GaAs abrupt varactor diode are coupled in a single high Q cavity to provide low AM/FM noise, excellent frequency and power stability with respect to changes in operating temperature.



Dimensions in () are in mm.

1. Remove cap tuner cover for mechanical tuning.
2. Case of assembly is ground.

Specifications

Parameter	Symbol	Units	Specifications
Frequency Range	F	GHz	12.680 to 13.180
Power Output	P _{OUT}	mW	10 Min. Over T _{OP}
Electronic Tuning Range	ΔF/ΔV	MHz	25 Min.
Voltage Operating Range (Gunn) ³	V _{OP} /GUNN	VDC	+6.0 to +9.0
Operating Current (Gunn)	I _{OP}	mA	500 Max.
Startup Current (Gunn)	I _{TH}	mA	650 Max.
Voltage Operating Range (Tuning)	V _{OP} /TUNING	VDC	+2.0 to +7.0
Change Frequency vs. Temperature ⁴	ΔF/ΔT	MHz	±10 Max.
Recommended Output Load Parameter	LOAD (SWR)	SWR	1.5:1 Max., Any Phase
Operating Temperature Range (Ambient) ⁵	T _{OP}	°C	-30 to +70
Waveguide Size/Flange			WR-62, UG-419/U

3. Specific voltage assigned by factory. Power supply should be held to ±0.10 V.

4. The frequency reference is the frequency at 25°C.

5. The ambient temperature is defined as air temperature.

6. A 6.8 microfarad capacitor is supplied between the Gunn bias pin and ground to suppress bias line oscillations.

Specifications Subject to Change Without Notice.

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