

Varactor Controlled Oscillator

21.20 - 23.60 GHz

MA87811

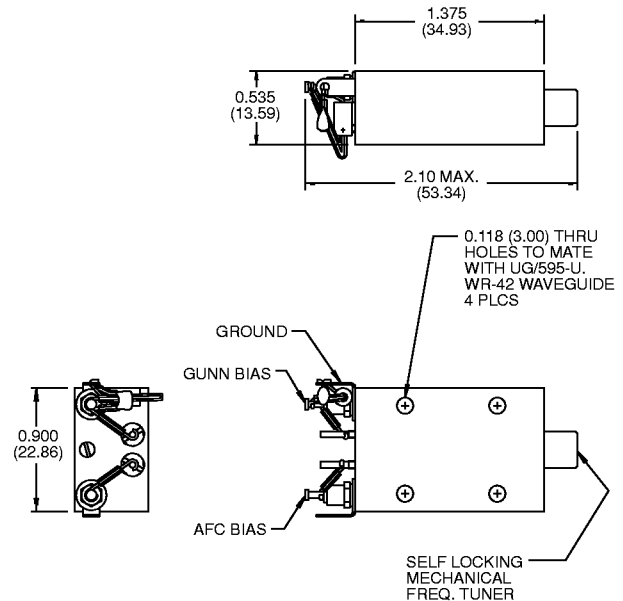
V3.00

Features

- Low Cost
- Excellent Tuning Linearity
- $\pm 0.03\%$ Frequency vs. Temperature Stability
- Small and Lightweight
- Modulation and External AFC Control Can be Commonly Applied to Electronic Tuning Bias
- 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 21.2 to 23.6 GHz. This VCO is suitable as the transmitter in point-to-point microwave radio systems. A Gunn diode and GaAs hyperabrupt 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.

Specifications

Parameter	Symbol	Units	Specifications
Frequency Range ¹	F	GHz	21.20 to 23.60
Power Output	P _{OUT}	mW	50 Min.
Electronic Tuning Ranges	$\Delta F/\Delta V$	MHz	30 Min.
Modulation Sensitivity	MOD/SENS	MHz/V	4.5 Min. to 8.0 Max.
Voltage Operating Range (Gunn) ²	V _{OP} /GUNN	VDC	+4.5 to +7.0
Operating Current (Gunn)	I _{OP}	mA	1400 Max.
Startup Current (Gunn)	I _{TH}	mA	1400 Max.
Voltage Operating Range (Tuning)	V _{OP} /TUNING	VDC	+2.0 to +10.0
Change Frequency vs. Temperature ³	$\Delta F/\Delta T$	MHz	$\pm 0.03\%$ Max.
Recommended Output Load Parameter	LOAD (SWR)	SWR	<1.5:1 Max., Any Phase
Operating Temperature Range (Ambient) ⁴	T _{OP}	°C	-30 to +60
Waveguide Size/Flange			WR-42, UG-595/U

1. Available in 200 MHz mechanically tuned bands.
2. Specific voltage assigned by factory. Power supply should be held to ± 0.10 V.
3. The frequency reference is the frequency at 25°C.
4. The ambient temperature is defined as air temperature.
5. A 2.2 microfarad capacitor is supplied between the Gunn bias pin and ground to suppress bias line oscillations.

Specifications Subject to Change Without Notice.

M/A-COM, Inc.

North America: Tel. (800) 366-2266 ■ Asia/Pacific: Tel. +81 (03) 3226-1671 ■ Europe: Tel. +44 (1344) 869 595
 Fax (800) 618-8883 Fax +81 (03) 3226-1451 Fax +44 (1344) 300 020