

Varactor Controlled Oscillator

21.20 - 23.60 GHz

MA87827

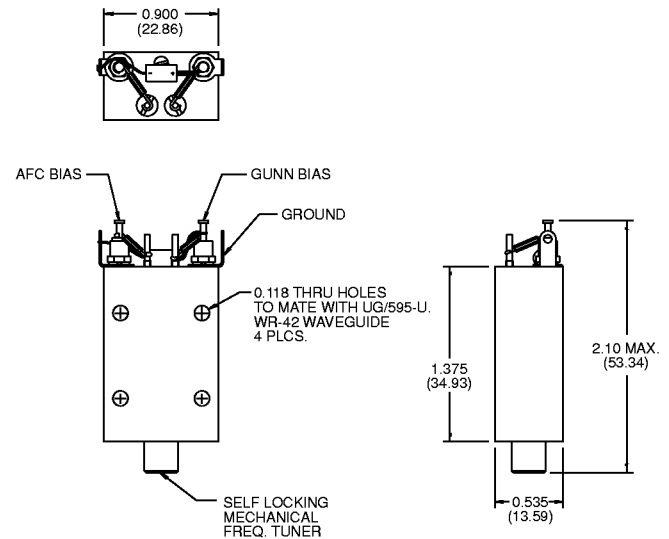
V3.00

Features

- Excellent Tuning Linearity
- Small and Lightweight
- Modulation and External AFC Control Can be Commonly Applied to Electronic Tuning Bias
- $\pm 0.05\%$ Frequency vs. Temperature Stability
- 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	60 Min. Over T _{OP}
Electronic Tuning Ranges	$\Delta F/\Delta V$	MHz	± 30 Min.
Modulation Sensitivity	MOD/SENS	MHz/V	5.0 to 8.0
Voltage Operating Range (Gunn) ²	V _{OP} /GUNN	VDC	+4.5 to +8.0
Operating Current (Gunn)	I _{OP}	mA	1400 Max.
Startup Current (Gunn)	I _{TH}	mA	1400 Max.
Voltage Operating Range (Tuning)	V _{OP} /TUNING	VDC	0 to +10.0
Change Frequency vs. Temperature ³	$\Delta F/\Delta V$	MHz	$\pm 0.05\%$ Max.
Recommended Output Load Parameter	LOAD (SWR)	SWR	<1.5:1 Max., Any Phase
Operating Temperature Range (Ambient) ⁴	T _{OP}	°C	-30 to +70
Waveguide Size/Flange			WR-42, UG-595/U

1. Available in 600 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.

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