

Varactor Controlled Oscillator

17.70 - 19.70 GHz

MA87826

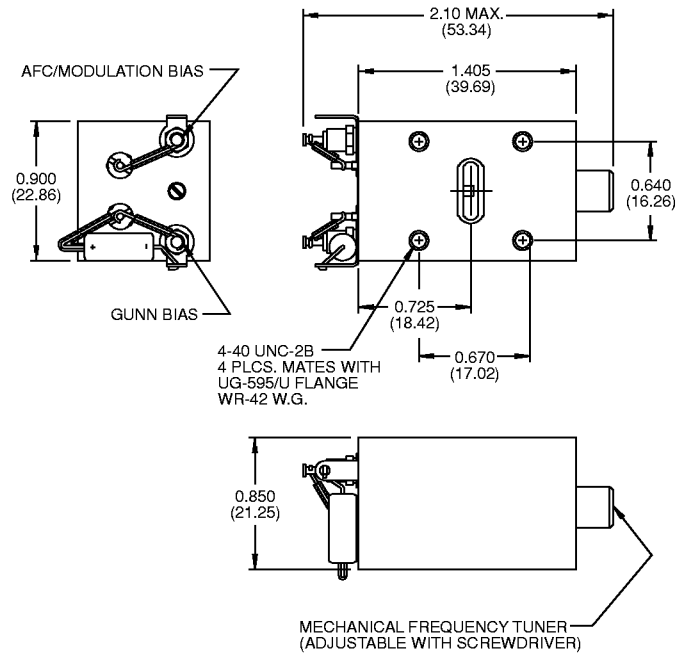
V3.00

Features

- Excellent Tuning Linearity
- Small and Lightweight
- Modulation and External AFC Control can be Commonly Applied to Electronic Tuning Bias
- Power Outputs to 23 dBm Available
- $\pm 0.05\%$ 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 17.7 to 19.70 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 @ 25°C

Parameter	Symbol	Units	Specifications
Frequency Range ¹	F	GHz	17.70 to 19.70
Power Output	P _{OUT}	mW	80 Min. Over T _{OP}
Electronic Tuning Ranges	$\Delta F/\Delta V$	MHz	50 Min.
Modulation Sensitivity ²	MOD/SENS	MHz/V	5.0 to 12.0
Voltage Operating Range (Gunn) ³	V _{OP} /GUNN	VDC	+5.5 to +8.5
Operating Current (Gunn)	I _{OP}	mA	1600 Max.
Startup Current (Gunn)	I _{TH}	mA	2000 Max.
Voltage Operating Range (Tuning)	V _{OP} /TUNING	VDC	0 to +12.0
Change Frequency vs. Temperature	$\Delta F/\Delta T$	MHz	± 13 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 450 MHz mechanically tuned bands.

2. Tuning voltage +3.0 to +9.0 VDC.

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

4. The ambient temperature is defined as air temperature.

5. 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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