



## RS-WMFS Frequency Synthesizer



**FREQUENCY RANGE:**  
**Offering Bands from 1-23 GHz**

### FEATURES

- Octave Band Military Synthesizer, Offering Bands From 1 to 23 GHz
- Step Sizes of Less Than 1 Hz
- Low Phase Noise (-85 dBc @ 100 KHz Offset, @ 10 GHz)
- Low DC Power Consumption
- Low Spurious (-60 dBc)
- Ruggedized Construction for Airborne Applications
- Hermetically Sealed Package

### APPLICATIONS

- Radar
- Instrumentation
- Fixed & Mobile SATCOM Converters
- Flight Testers

### GENERAL DESCRIPTION

The RS-WMFS is a wide band military synthesizer, offering bands from 1-23 GHz in bands up to 6 GHz wide, and features step sizes of less than 1 Hz. The unit also features a switching speed of less than 1 ms, low spurious (-60) and low power consumption (10 watts typical). This small package is hermetically sealed and ruggedized for military application. Typical phase noise is -85 dBc @ 100 KHz offset @ 10 GHz.

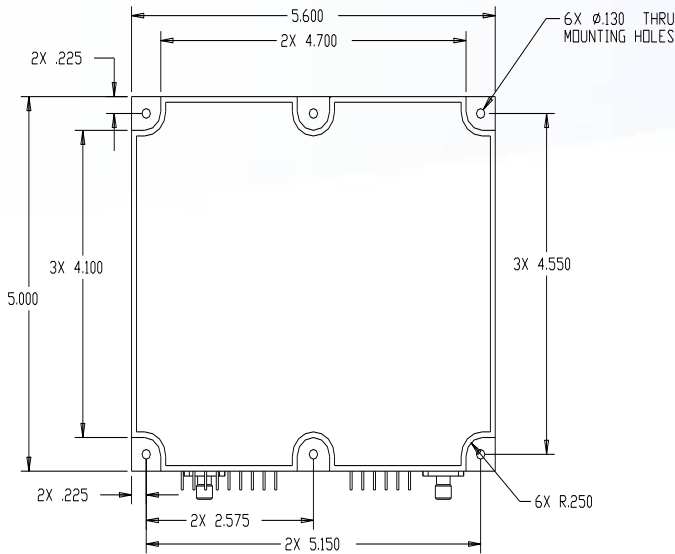


## SPECIFICATIONS

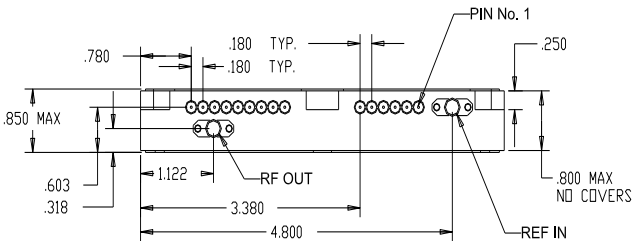
Typical Frequency Bands	6-10 GHz (3-5 GHz, 8-12 GHz, 12-18 GHz)
Power Output	+11 to +16 dBm
Resolution	< 1 Hz, 1 KHz, 100 KHz, 1 MHz
Return Loss RF Out	< 10 dB
Return Loss 10 MHz Reference	< 10 dB
Spurious Signals	-60 dBc max (-70 dBc Typ)
Harmonics	-60 dBc max
Phase Requirements	+15V @ 250 mA +8V @ 950 mA -12V @ 50 mA
DC Power	11.5W Max
Ripple on DC	50m Vp-p max 200 KHz
Phase Noise @ 10 GHz Max	
10 Hz Offset	-60 dBc
100 Hz offset	-60 dBc
1 KHz offset	-80 dBc
10 KHz Offset	-80 dBc
100 KHz Offset	-85 dBc
1 MHz Offset	-119 dBc
10 MHz Offset	-140 dBc
Turning Time	< 0.8 msec (250 µsec optional)
External Reference	10 MHz @ -7 to +3 dBm
ESS	Vibration, Shock, Fine & Gross Leak
Thermal Cycling	-40° C to +65° C
Weight	2.5 lbs Max
Operation Temperature	+25° C to +58° C
RF Connectors	SMA female
Dimensions	5.1" X 5.6" X 0.9" excluding connector
Package	Hermitically sealed per MIL STD-202F



## OUTLINE DRAWING



Filter PIN No.	FUNCTION
1	ENABLE
2	D0
3	D1
4	D2
5	D3
6	D4
7	D5
8	D6
9	D7
10	CLOCK
11	ON/OFF
12	LOCK
13	+15V
14	+8V
15	-12V



NOTES:  
CONNECTORS:  
RF OUT: SMA TYPE JACK (FEMALE), HERMETIC SEALED  
REF IN: SMA TYPE JACK (FEMALE), HERMETIC SEALED  
PIN OUT: HERMETIC FILTERS

**FOR ADDITIONAL INFORMATION PLEASE CONTACT**  
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