KRATOS | GENERAL MICROWAVE
Microwave Electronics Division

SERIES SF60 FAST 1 µsec. INDIRECT SYNTHESIZER

MAIN FEATUERS

- Wide Frequency Range
- Fast Settling Time: 1 micro sec
- Very low Phase Noise
- Low Power Consumption
- Small Size

APPLICATIONS

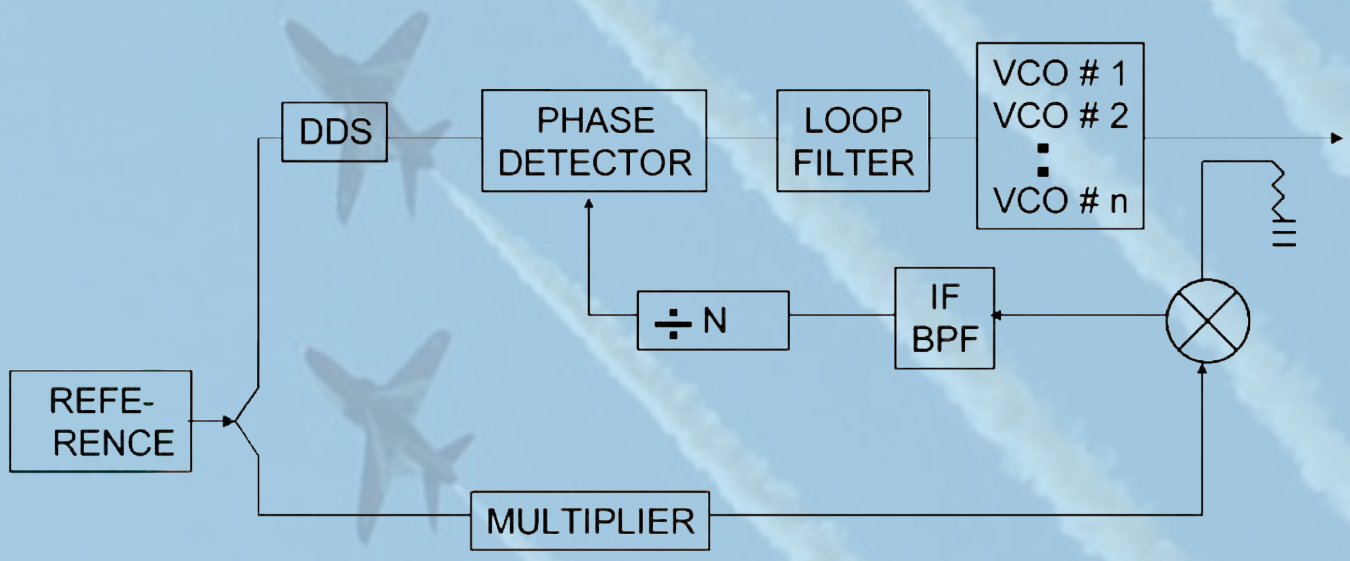
The Series SF60 family of Fast Indirect Synthesizers represent an ideal solution for both Military and Commercial applications. They offer very high performance and cost effective alternatives for expensive Direct Digital Synthesizers and also very reasonably priced replacements for both Frequency Locked and Digitally Tuned Oscillators. Their Fast (1 usec) Frequency Switching Time, exceptional Accuracy, Low Phase Noise and Small Size make them well suited for complex Military systems such as Electronic Warfare (EW) systems serving to satisfy both local oscillators and built-in test functions. In addition, the fundamental Series SF60 design provides the flexibility to customize performance specifications for more specific application requirements. For Military applications, the Series SF60 will conform to MIL STD Environmental Conditions when Option G09 is included. The standard Series SF60 Synthesizer high performance characteristics can be economically utilized in today's more sophisticated Commercial Signal Generators, Test Equipment and Test Systems.

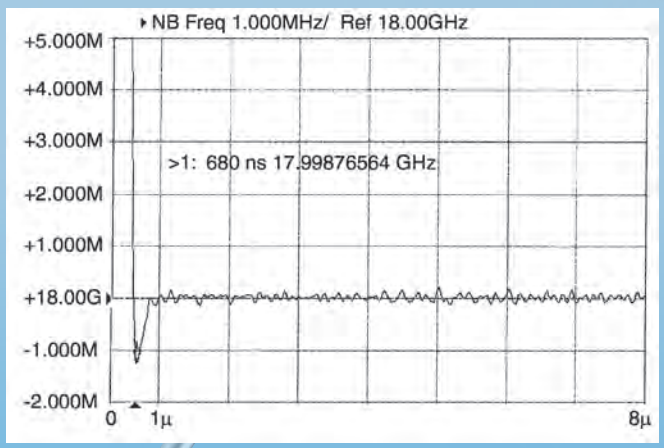
DESCRIPTION

The General Microwave Series SF60 Synthesizer is the latest in the line of Microwave signal source products, including Voltage Controlled, Digitally Tuned and Frequency Locked Oscillators. They are based upon a state-of-the-art proprietary design which utilizes VCOs and DDS to achieve wide-band frequency coverage, fast (1 usec) settling time, very low phase noise and low power consumption. A fundamental block diagram is shown below.

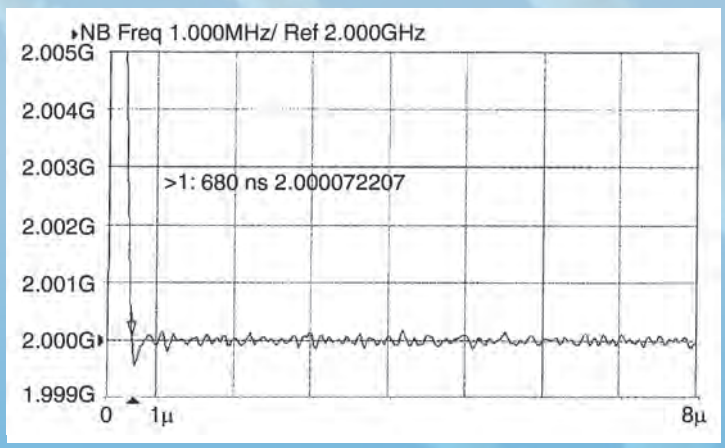
Their small size, low weight and low power consumption and with option G09, makes them well suited for use in Military Airborne (UAV), Naval and Ground systems.

FAST INDIRECT SYNTHESIZER-BLOCK DIAGRAM





Model SF6218
SETTLING TIME FROM 2 to 18 GHz



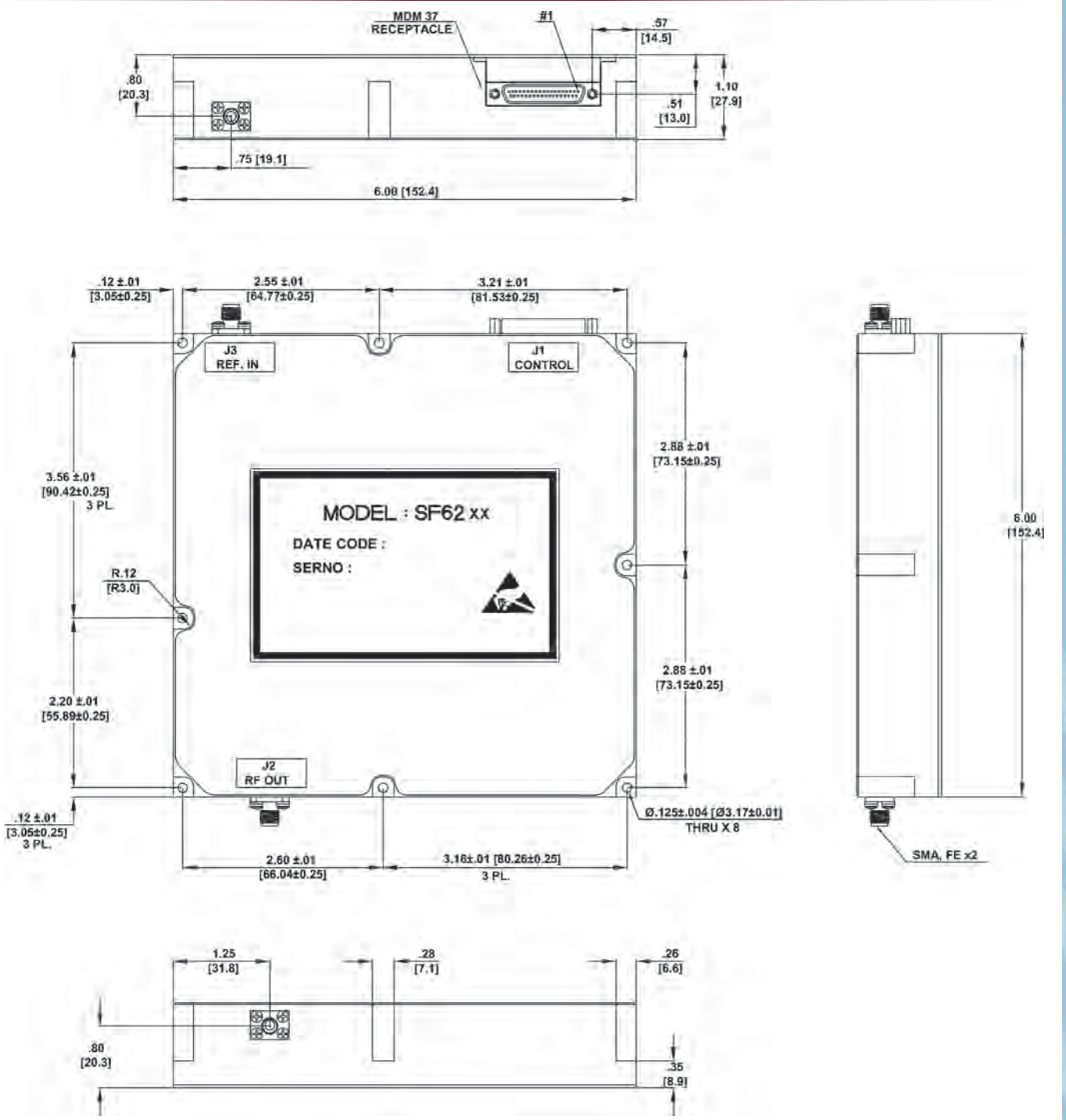
Model SF6218
SETTLING TIME FROM 18 to 2 GHz

	PARAMETER	MAIN SPECIFICATION		
		MODEL SF6053	MODEL SF6218	MODEL SF6219
1	FREQUENCY RANGE (GHz)	0.5 to 3 (1)	2 to 18 (1)	2 to 19 (1)
2	ACCURACY	Same (PPM) as of the reference crystal oscillator		
3	FREQUENCY AGING	Same (PPM) as of the reference crystal oscillator		
4	OUTPUT POWER Min. (dBm)	10		
5	SETTLING TIME , max. (µsec)	1		
6	SSB PHASE NOISE (2), max (dBc/Hz)			
6.1	@ 100 Hz Offset	–77		
6.2	@ 1 kHz Offset	-90	-90	-90
6.3	@ 10 kHz Offset	-110	-100	-100
6.4	@ 100 kHz Offset	-115	-105	-105
6.5	@ 1 MHz Offset	-115	-105	-105
6.6	@ 10 MHz Offset	-120	-110	-110
7	HARMONICS, max (dBc)	-20		
8	SUB-HARMONICS, max (dBc)	-50		
9	SPURIOUS, max (dBc)	-50	-50	-50 (1)
10	PULLING @ VSWR 2:1 max (kHz)	<1		
11	PUSHING, max (kHz/V)	± 1		
12	FREQUENCY STEP SIZE, nominal LSB (kHz)	10		
13	REFERENCE CRYSTAL - EXTERNAL, (MHz) (3) (4)	100		
14	POWER SUPPLY REQUIREMENT, (mA):			
	+12V ±5%	1,800		
	-12V ±5%	300		
	+5V ±5%	1,500		
15	OPERATING TEMP. (°C) (1)	-20 to +70		
16	OTHER ENVIRONMENTAL PARAMETERS	APPLICABLE FOR AIRBORNE APPLICATIONS		
17	DIMENSIONS, Inches (mm)	6 x 6 x 1.1, (152.4 x 152.4 x 27.9)		

NOTES

1. Other specifications are available
2. Depends on the Reference Oscillator
3. Internal Reference Oscillator is Optional
4. 10 MHz Reference Oscillator is Optional

Dimensions and Outline



Weight 2.2 Pounds (1.9 Kg) Dimensions in Inches (mm)

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