

## SMS-B Broadband Fast Tuning Miniature Synthesizer

### FEATURES

- Small 3.0" x 2.9" x 0.7" Package
- Up to 19 GHz Bandwidth (1-20 GHz)
- < 50 uS Tuning Speed Option
- - 60 dBc Spurious
- <6.5W Power Consumption

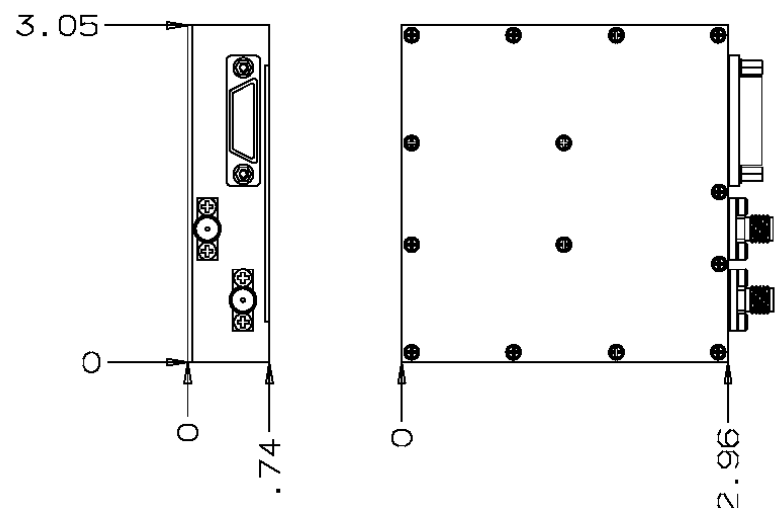
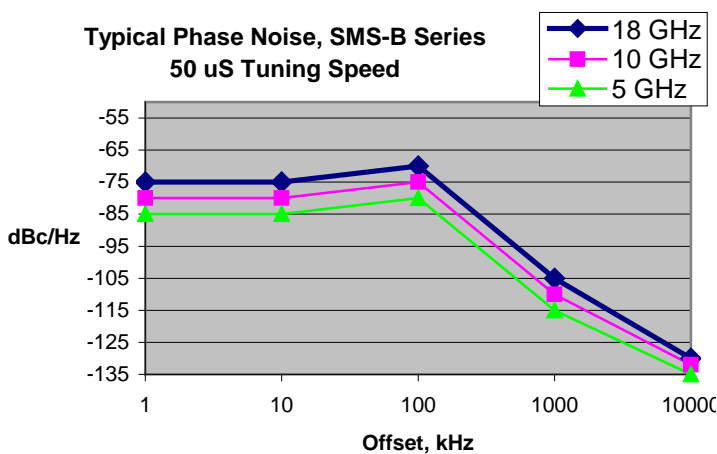
### APPLICATIONS

- EW / SIGINT
- Radar Systems
- Microwave Radio
- Instrumentation / Test Module



### DESCRIPTION

The SMS-B synthesizer was designed to provide systems engineers a reliable, fast tuning, multi-octave microwave source with the smallest possible footprint and lightest weight. It covers the entire 1-20 GHz spectrum on one SMA output (multi-ports optional). The design utilizes the latest MMIC components including VCO's, Multipliers, and Amplifiers to shrink size, eliminate hand tuning, and minimize parts count. The result is a low cost, lightweight integrated module that can perform in the harshest environments. A 16 step programmable loop filter bank ensures settling time speed and phase noise consistency over the entire bandwidth.



**SMS-B**  
**Broadband Fast Tuning Miniature**  
**Synthesizer**

**PERFORMANCE SPECIFICATIONS \***

PARAMETER	VALUE	OPTIONS
Frequency Range	500MHz – 20.5 GHz	100Mhz up to 40 GHz
Bandwidth	19 GHz (1-20 GHz out)	max 500MHz-24GHz
Step Size	2.5 – 10 MHz	1kHz with Frac-Synth
Tuning Speed	< 250 $\mu$ S	< 50 $\mu$ S
Output Power	+ 10 dBm	+ 18 dBm
Power Variation	+/- 2 dB, over frequency	
Harmonics	-20 dBc	-30 dBc
Spurious	-60 dBc	-70 dBc, select bands
Phase Noise (typical @ 10 GHz)	(see plot)	
1 kHz	-80 dBc/Hz	
10 kHz	-80 dBc/Hz	
100 kHz	-75 dBc/Hz	
1 MHz	-110 dBc/Hz	
Frequency Accuracy	same as reference	
Input Reference Frequency	10-200 MHz	internal 10MHz ref, 2ppm
Input Reference Power	0 to +6 dBm	
Programming (LVTTTL)	parallel N-bit, serial SPI	RS-232, BCD
Supply Voltage	+5 VDC, 600 mA +15 VDC, 200 mA -5 VDC, 25mA (for best noise)	+5 VDC only
Environmental		
Vibration	(as required)	
Shock	(as required)	
Operating Temp	-20 to +75 deg. C	-45 to +85 deg. C
Physical	3.0" x 2.9" x 0.7", SMA(F) Micro-D 25 pin connector	custom package

\* Other configurations available, consult factory



Certificate # A2498US