

## SMS-B Broadband Fast Tuning Miniature Synthesizer

### FEATURES

- Small 3.0" x 3.0" x 0.7" Package
- Up to 18 GHz Bandwidth (2-20 GHz)
- < 50 uS Tuning Speed Option
- - 60 dBc Spurious
- MIL-STD Screening Available

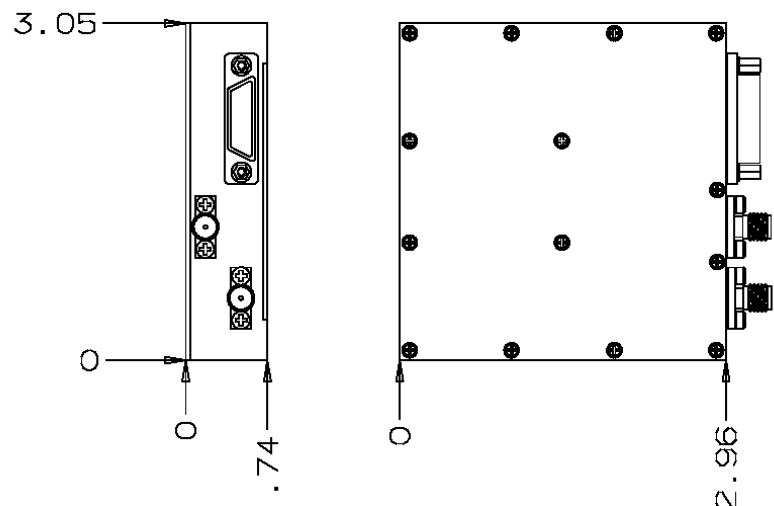
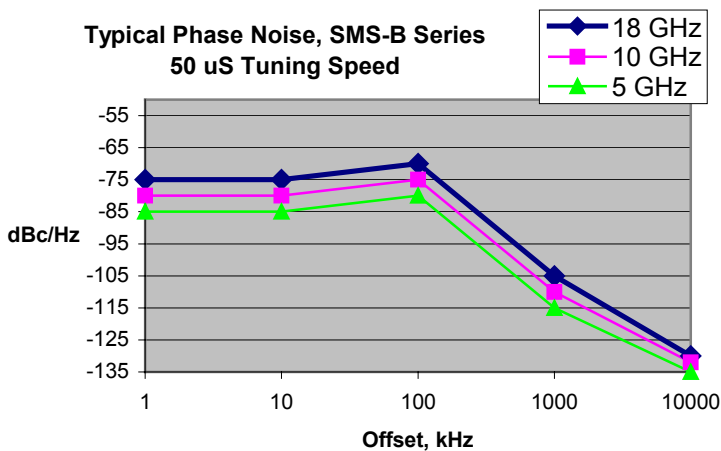
### APPLICATIONS

- 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 2-20 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                | 1 – 26 GHz   | Up to 40 GHz       |
| Bandwidth                      | 18 GHz (2-20 GHz out)                                  |                    |
| Step Size                      | 2.5 – 10 MHz   |                    |
| Tuning Speed                   | < 500 uS   | < 50 uS            |
| Output Power                   | + 7 dBm  | + 17 dBm           |
| Power Variation                | +/- 2 dB   |                    |
| Harmonics                      | -15 dBc  | -30 dBc            |
| Spurious                       | -60 dBc  | -70 dBc            |
| 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 Reference |
| Input Reference Power          | -3 to +3 dBm   |                    |
| Programming (LVTTTL)           | Parallel N-bit, w/ Lock Det                            | Serial, RS-232     |
| Supply Voltage                 | +5 VDC, 600 mA<br>+15 VDC, 200 mA                      | +5 VDC only        |
| <b>Environmental</b>           |  |                    |
| Vibration                      | (as required)  |                    |
| Shock                          | (as required)  |                    |
| Operating Temp                 | -20 to +75 deg. C                                      | -45 to +85 deg. C  |
| <b>Physical</b>                |  |                    |
|                                | 3.0" x 2.9" x 0.7", SMA(F)<br>Micro-D 25 pin connector | Custom Package     |

\* Other configurations available, consult factory



Certificate # A2498US