

SMS-D Multi-Loop Fast Tuning Synthesizer

FEATURES

- < 50 uS Phase Settling Time +/- 2.0 deg
- 1 - 20 GHz Output
- Low Phase Noise:
- -110 dBc/Hz @100 kHz offset, 12.5 GHz
- Up to 20% Bandwidth
- MIL-STD Screening Available

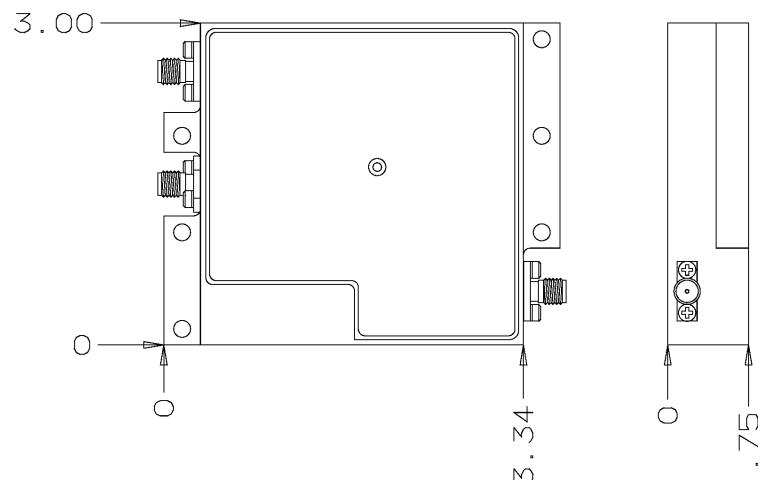
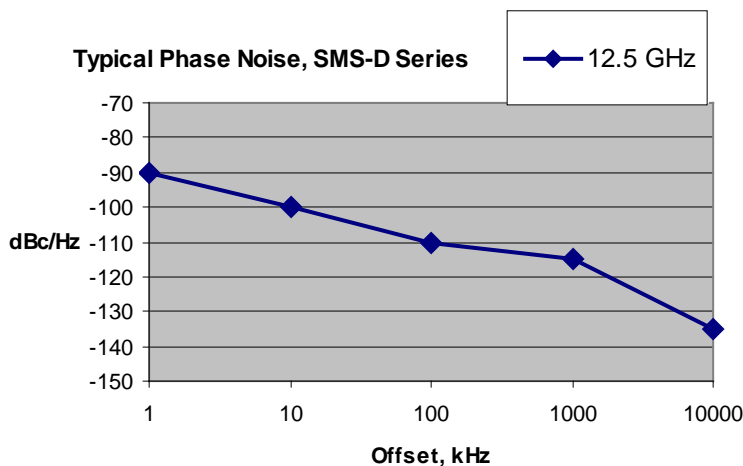
APPLICATIONS

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



DESCRIPTION

The SMS-D synthesizer is a miniature 'multi-loop' microwave source designed to offer the best phase noise and switching speed possible. By using a 'double-then-mix-down' topology, the overall PLL 'N' count is kept below 40 for frequencies up through 13 GHz without sacrificing frequency resolution. Careful selection of frequency plan yields spurious performance of better than -70 dBc. Loop filter gain adjustments and band switching are all controlled internally via programmable logic devices. Many configurations and frequency bands can incorporate the same basic architecture, saving the customer NRE costs for a custom module. A perfect fit for radar or radio link requirements.



SMS-D
Multi-Loop Fast Tuning Synthesizer

PERFORMANCE SPECIFICATIONS *

PARAMETER	VALUE	OPTIONS
Frequency Range	1 – 20 GHz	Up to 40 GHz
Bandwidth	10%	Up to 20%
Step Size	2.5 – 10 MHz	
Tuning Speed	< 50 uS, +/- 2 Deg. Phase	
Output Power	+ 12 dBm	+ 20 dBm
Power Variation	+/- 1.5 dB	
Harmonics	-20 dBc	-40 dBc
Spurious	-60 dBc	-70 dBc
Phase Noise (typical @ 12 GHz)	(see plot)	
1 kHz	-90 dBc/Hz	
10 kHz	-100 dBc/Hz	
100 kHz	-110 dBc/Hz	
1 MHz	-115 dBc/Hz	
Frequency Accuracy	Same as Reference	
Input Reference Frequency	100-200 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, 1000 mA +15 VDC, 250 mA	+5 VDC only
Environmental		
Vibration	(as required)	
Shock	(as required)	
Operating Temp	-20 to +75 deg. C	-40 to +85 deg. C
Physical	3.0" x 3.3" x 0.75", SMA(F)	Custom Package

* Other configurations available, consult factory



Certificate # A2498US