

SYN-D40 Ultra-Broadband Synthesizer

FEATURES

- Covers 100kHz to 40GHz
- Low Phase Noise
- Down to 1 kHz step size
- - 60 dBc Spurious
- 40 dB Pulse Modulation
- Small Package

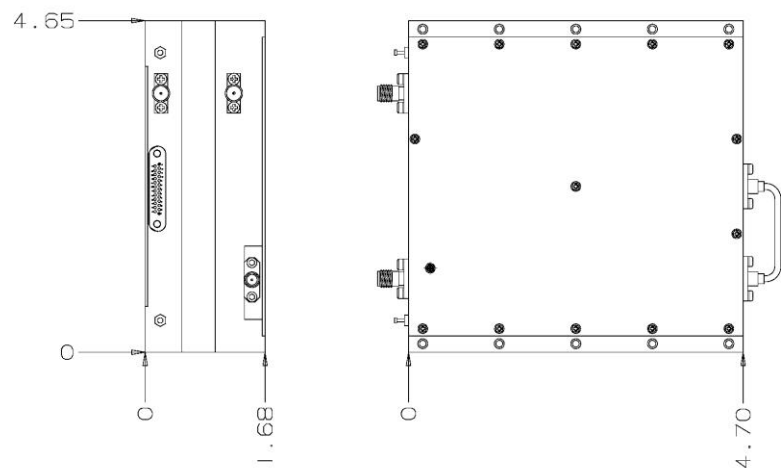
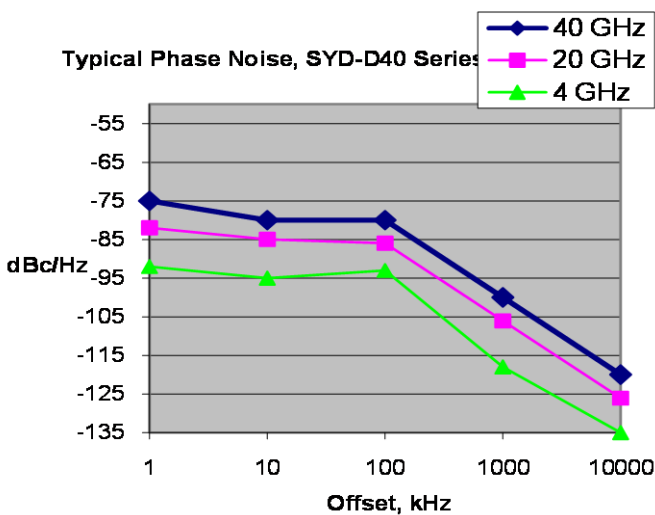
APPLICATIONS

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



DESCRIPTION

The SYN-D40 Synthesizer was designed to provide the maximum tunable bandwidth in small module for military and instrumentation applications. The total bandwidth is split between two RF outputs (50 kHz - 2 GHz, and 2 GHz to 40 GHz) to facilitate best RF performance. An Integrated DDS module provides frequency coverage from 50 kHz to 250 MHz, and can be programmed by the user to perform various modulation functions. 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.



SYN-D40
Ultra-Broadband Synthesizer

PERFORMANCE SPECIFICATIONS *

PARAMETER	VALUE	OPTIONS
Frequency Range	100 kHz - 40 GHz	
DDS Bandwidth	100 kHz to 250 MHz	
Step Size	1 – 2 MHz	1kHz with Frac-Synth
Tuning Speed	< 250 uS	< 50 uS
Output Power	+ 10 dBm	
Power Variation	+/- 3 dB, over frequency	
Harmonics	-20 dBc	-40 dBc, select bands
Spurious	-60 dBc, up to 20 GHz	-70 dBc, select bands
Phase Noise (typical @ 10 GHz)	(see plot)	
1 kHz	-82 dBc/Hz	
10 kHz	-85 dBc/Hz	
100 kHz	-85 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, 2000 mA +15 VDC, 250 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	4.65" x 4.7" x 1.68", SMA(F) Micro-D 25 pin connector	custom package

* Other configurations available, consult factory



Certificate # A2498US