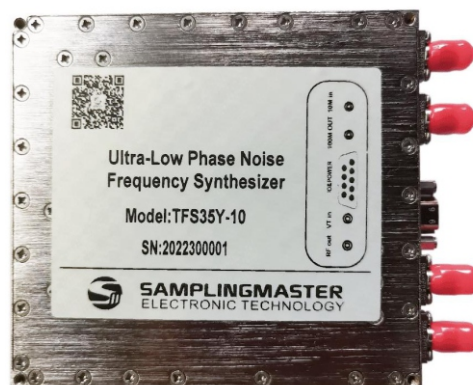


TFS35Y-10

Ultra-Low Phase Noise Frequency Synthesizer

Features

1. Output Frequency: 5 ~ 10 GHz
2. Excellent Phase Noise (10 GHz)
 - 130dBc/Hz@10kHz
 - 140dBc/Hz@1MHz
3. Built-in Low Phase Noise, High-Stability Crystal Oscillator



Electrical Specifications

RF IN	Input Reference (MHz)	10
	Input Reference Power (dBm)	7±3
Input Reference Phase Noise (dBc/Hz) (10MHz)	dBc/Hz@10Hz	≤-130
	dBc/Hz@100Hz	≤-140
	dBc/Hz@1kHz	≤-155
	dBc/Hz@10kHz	≤-165
	dBc/Hz@100kHz	≤-165
	dBc/Hz@1MHz	≤-170
	Harmonic (dBc)	≤-10
Clock Output	Output Frequency (MHz)	100
	Output Power (dBc)	≥10
	Spurious (dBc)	≤-80
	Harmonic (dBc)	≤-30
Output Phase Noise (100MHz)	dBc/Hz@100Hz	≤-135
	dBc/Hz@1kHz	≤-167
	dBc/Hz@10kHz	≤-178
	dBc/Hz@100kHz	≤-180

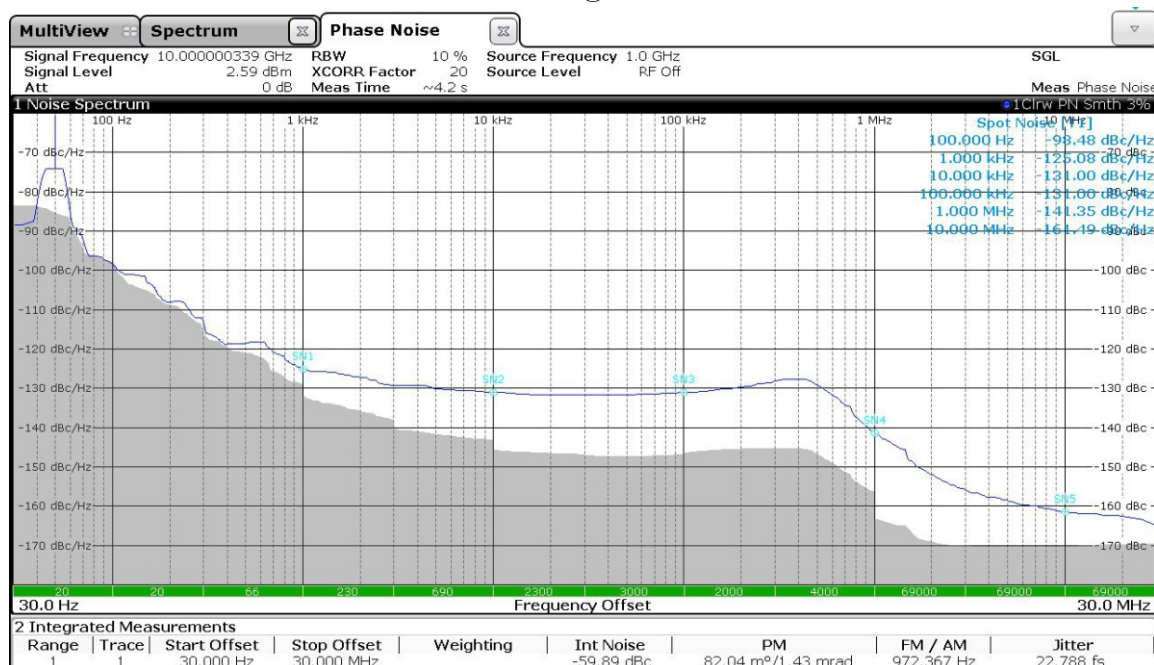
	dBc/Hz@1MHz	≤ -180
RF Output	Output Frequency (MHz)	5000~10000
	Frequency Step (Hz)	0.1m
	Frequency Switching Time (ms)	≤ 20 (Typ.)
	Output Power (dBm)	≥ 10
	Frequency Stability	± 0.2 ppm (Internal Clock)
	Spurious (dBc)	≤ -75 dBc(Typ) / -70 (Max) ≤ -90 dBc(Typ) / -85 (Max)(Option)

Note: The phase noise of the TFS35Y-10 output signal at offsets from 1 Hz to 100 Hz is correlated with the phase noise of the 10 MHz reference.

RF Output phase noise

Offset	5GHz	10GHz
dBc/Hz@100Hz	≤ -101	≤ -95
dBc/Hz@1kHz	≤ -127	≤ -122
dBc/Hz@10kHz	≤ -135	≤ -130
dBc/Hz@100kHz	≤ -135	≤ -130
dBc/Hz@1MHz	≤ -144	≤ -140

Phase Noise @ 10GHz



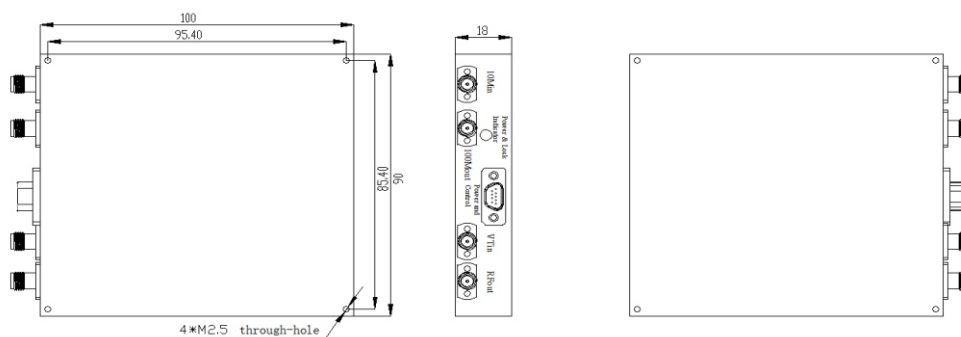
Power Requirements

Parameter	Specification
Supply Voltage	+12V $\pm$ 0.5V
Maximum Voltage	+15V
Operating Current	$\leq$ 2.2A (Start-up) / $\leq$ 1.95A (Stable)
Control Interface	SPI

Mechanical & Environmental

Parameter	Specification
Operating Temperature	0°C ~ +50°C
Storage Temperature	-20°C ~ +70°C
Weight	$\leq$ 0.45 kg
Dimensions (L x W x H)	100 x 90 x 18 mm

Dimensions



RF Connectors (SMA-K, Field-Removable)

10M in/ RF out/ 100M out		SMA-K (Φ0.38)			
Power & Control		J30J-9-ZKP			
Power & Control Connector (J30J-9-ZKP)					
1	+12V (Power)	4	GND	7	MISO (SPI)
2	+12V (Power)	5	LD (Lock Detect: High = Locked)	8	SCK (SPI)
3	GND	6	MOSI (SPI)	9	LE (SPI)

Ordering Information

Model	Description
TFS35Y-10	Standard Model
TFS35Y-10L	Low Spurious Option (Spurious: $\leq$ -90 dBc Typ. / -85 dBc Max.)