

Title:	Performance Report SiT2024B, 9.84375MHz		
Type:	Performance report	Rev:	1.0
Orig:		Date:	Nov 25, 2014

## This report contains sample performance data for SiT2024B-9.84375MHz.

## **Conditions:**

- Frequency 9.84375 MHz
- Vdd 1.8V, 2.5V, 2.8V, 3.0V, 3.3V
- Temperature 25°C
- Termination:
  - No load for IDD
  - $\circ$  50 $\Omega$  to GND for phase noise
  - o 15pF for other tests

## **Equipment:**

- Agilent DSA90604 oscilloscope (6GHz, 20Gsps)
  - o Period jitter, waveform, rise/fall time, duty cycle, amplitude
- Agilent E5052B Signal Source Analyzer
  - o Phase noise, integrated phase jitter
- Power supply current
  - o Agilent 34401A DMM

## Data:

- Random Phase jitter, Period Jitter, Duty cycle, Rise/Fall time, Amplitude, Idd
- Output waveforms
- Frequency stability versus temperature

Table 1. Performance data

Parameter	Units	Voltage				
i didilictei	Ullits	1.8 V	2.5 V	2.8 V	3.0 V	3.3 V
Period jitter	ps, rms	1.86	1.62	1.59	1.58	1.54
Period jitter (10,000 cycles)	ps, pk-pk	15.1	12.7	12.2	12.4	12.1
Duty cycle	%	50.0	50.0	50.0	50.1	50.2
Rise time (20% - 80%)	ns	1.23	1.00	0.92	0.97	0.91
Fall time (80% - 20%)	ns	1.26	0.98	0.90	0.97	0.91
Amplitude	V	1.79	2.48	2.79	3.02	3.30
Current consumption (no load, output enabled)	mA	3.42	3.50	3.54	3.55	3.60
Current consumption (no load, output disabled)	mA	3.38	3.45	3.50	3.54	3.62



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Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V



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Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V



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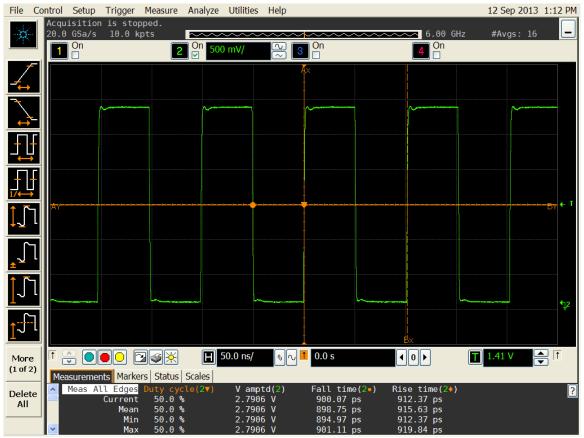


Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V



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Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V



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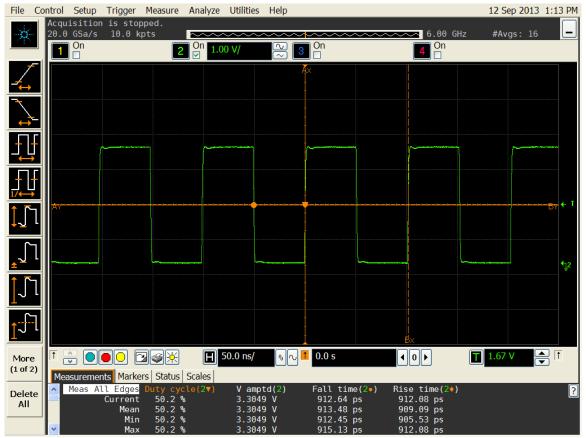


Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V



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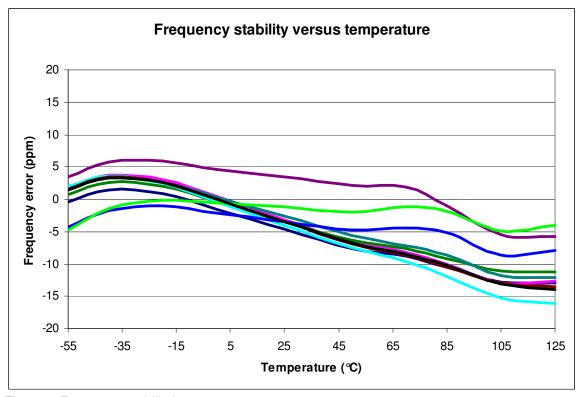


Figure 6. Frequency stability\* versus temperature

\*Please note that frequency stability in SiTime devices is not depended on output frequency.