	Title:	Performance Report SiT8008B, 33.3MHz			
	Type:	Performance report	Rev:	1.0	
	Orig:		Date:	Mar 31, 2014	

This report contains sample performance data for SiT8008B-33.3MHz.

Conditions:

- Frequency 33.3 MHz
- Vdd 1.8V, 2.5V, 2.8V, 3.0V, 3.3V
- Temperature 25 °C
- Termination:
 - o No load for IDD
 - o 50Ω to GND for phase noise
 - o 15pF for other tests

Equipment:

- Agilent DSA90604 oscilloscope (6GHz, 20Gpsps)
 - 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				
		1.8 V	2.5 V	2.8 V	3.0 V	3.3 V
Random Phase jitter (900kHz - 5MHz)	ps, rms	0.52	0.53	0.53	0.53	0.53
Random Phase jitter (12kHz - 5MHz)	ps, rms	1.36	1.34	1.33	1.33	1.33
Random Phase jitter (900kHz - 20MHz)*	ps, rms	0.78	0.81	0.81	0.81	0.81
Random Phase jitter (12kHz - 20MHz)*	ps, rms	1.48	1.48	1.46	1.47	1.46
Period jitter	ps, rms	1.84	1.71	1.70	1.68	1.65
Period jitter (10,000 cycles)	ps, pk-pk	13.5	12.2	12.1	12.2	11.8
Duty cycle	%	49.9	49.8	50.1	50.3	50.5
Rise time (20% - 80%)	ns	1.25	1.03	0.95	0.99	0.93
Fall time (80% - 20%)	ns	1.24	0.98	0.91	0.96	0.92
Amplitude	V	1.77	2.46	2.76	2.98	3.29
Current consumption (no load, output enabled)	mA	3.76	3.93	4.00	4.04	4.13
Current consumption (no load, output disabled)	mA	3.46	3.53	3.58	3.62	3.70

*Calculated by extending the noise floor of the phase noise from 5 MHz to 20 MHz



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

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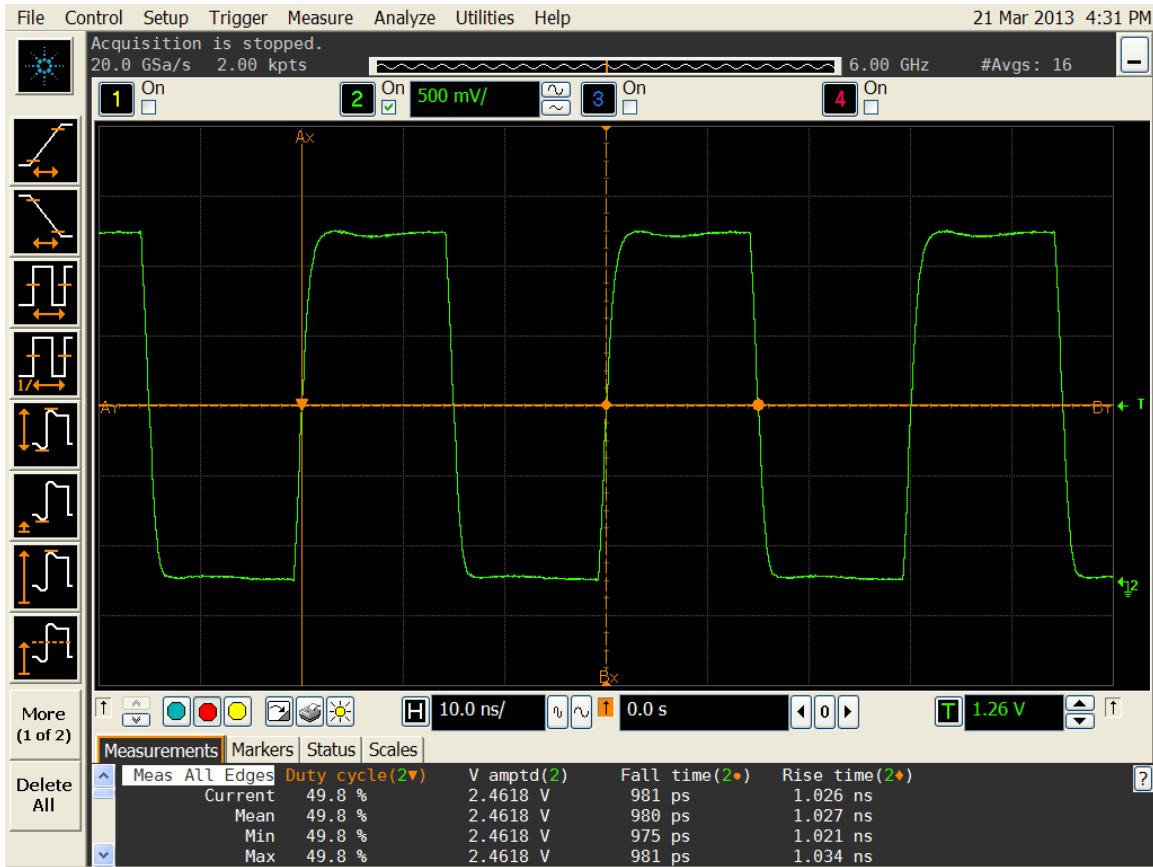



Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

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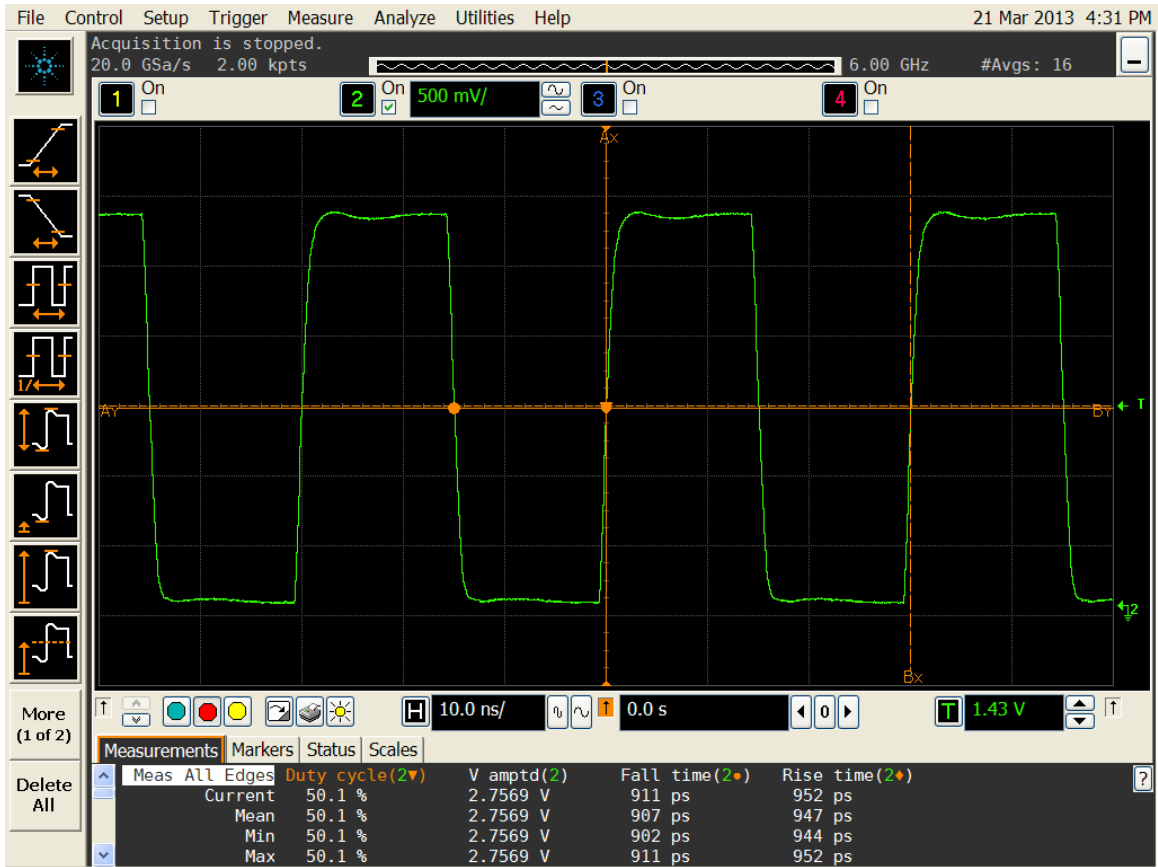



Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

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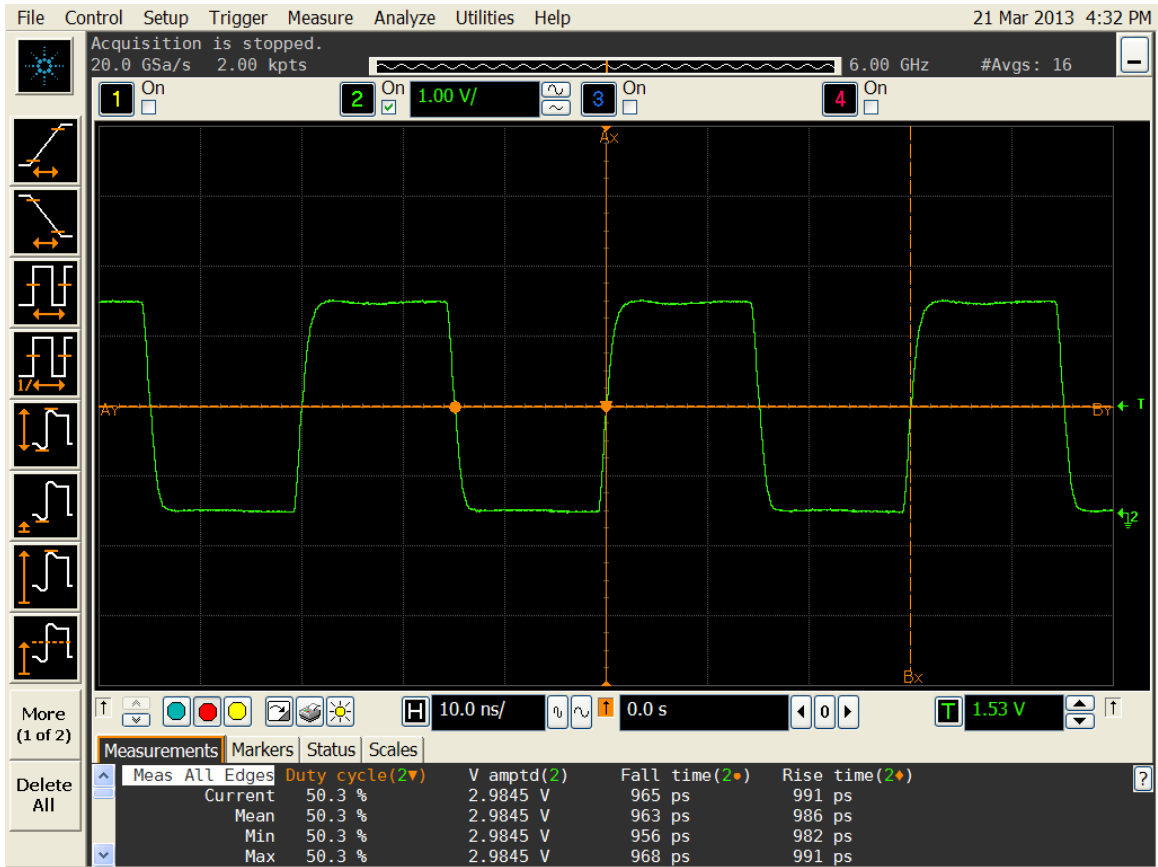



Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

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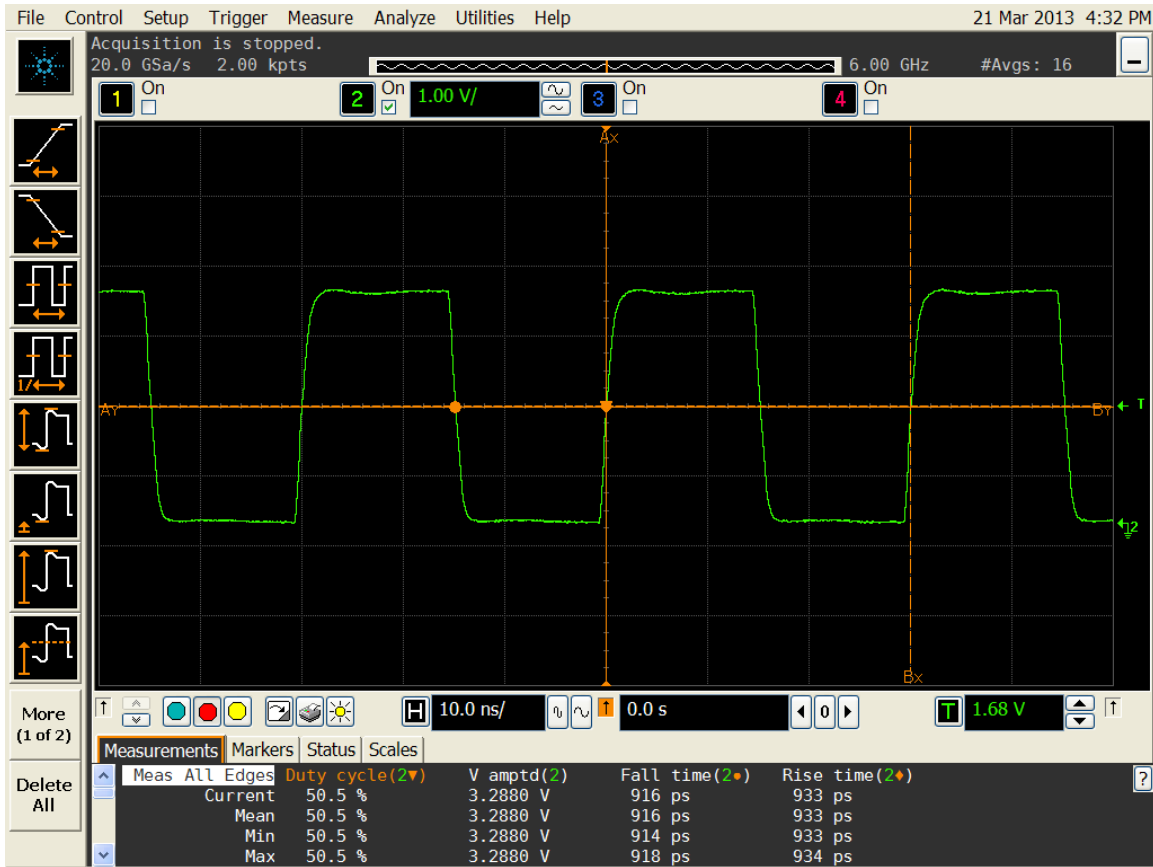


Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

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Figure 6. Frequency stability* versus temperature, 1.8 V

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


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Figure 7. Frequency stability versus temperature, 2.5 V

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Figure 8. Frequency stability versus temperature, 2.8 V

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Figure 9. Frequency stability versus temperature, 3.0 V

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Figure 10. Frequency stability versus temperature, 3.3 V

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