


| | | | | | |
|---|---------------|--|--------------|---------------------|--|
|  | Title: | Performance Report SiT2001B, 28.6363MHz | | | |
| | Type: | Performance report | Rev: | 1.0 | |
| | Orig: | | Date: | Mar 31, 2014 | |

This report contains sample performance data for SiT2001B-28.6363MHz.

Conditions:

- Frequency 28.6363 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, 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 | | | | |
|--|-----------|---------|-------|-------|-------|-------|
| | | 1.8 V | 2.5 V | 2.8 V | 3.0 V | 3.3 V |
| Random Phase jitter (900kHz - 5MHz) | ps, rms | 0.46 | 0.48 | 0.47 | 0.48 | 0.48 |
| Random Phase jitter (12kHz - 5MHz) | ps, rms | 1.21 | 1.20 | 1.19 | 1.21 | 1.21 |
| Random Phase jitter (900kHz - 20MHz)* | ps, rms | 0.73 | 0.76 | 0.76 | 0.76 | 0.76 |
| Random Phase jitter (12kHz - 20MHz)* | ps, rms | 1.34 | 1.34 | 1.33 | 1.35 | 1.35 |
| Period jitter | ps, rms | 1.94 | 1.66 | 1.66 | 1.61 | 1.60 |
| Period jitter (10,000 cycles) | ps, pk-pk | 14.1 | 12.4 | 12.0 | 12.1 | 11.9 |
| Duty cycle | % | 50.0 | 49.9 | 50.1 | 50.3 | 50.4 |
| Rise time (20% - 80%) | ns | 1.25 | 1.03 | 0.94 | 0.99 | 1.03 |
| Fall time (80% - 20%) | ns | 1.25 | 0.99 | 0.91 | 0.97 | 1.00 |
| Amplitude | V | 1.77 | 2.48 | 2.77 | 3.00 | 3.25 |
| Current consumption (no load, output enabled) | mA | 3.70 | 3.85 | 3.92 | 3.95 | 4.03 |
| Current consumption (no load, output disabled) | mA | 3.45 | 3.52 | 3.57 | 3.62 | 3.69 |

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

| | | | | |
|---|---------------|---|--------------|--------------|
|  | Title: | Performance Report SiT2001B, 28.6363MHz | | |
| | Type: | Performance report | Rev: | 1.0 |
| | Orig: | | Date: | Mar 31, 2014 |

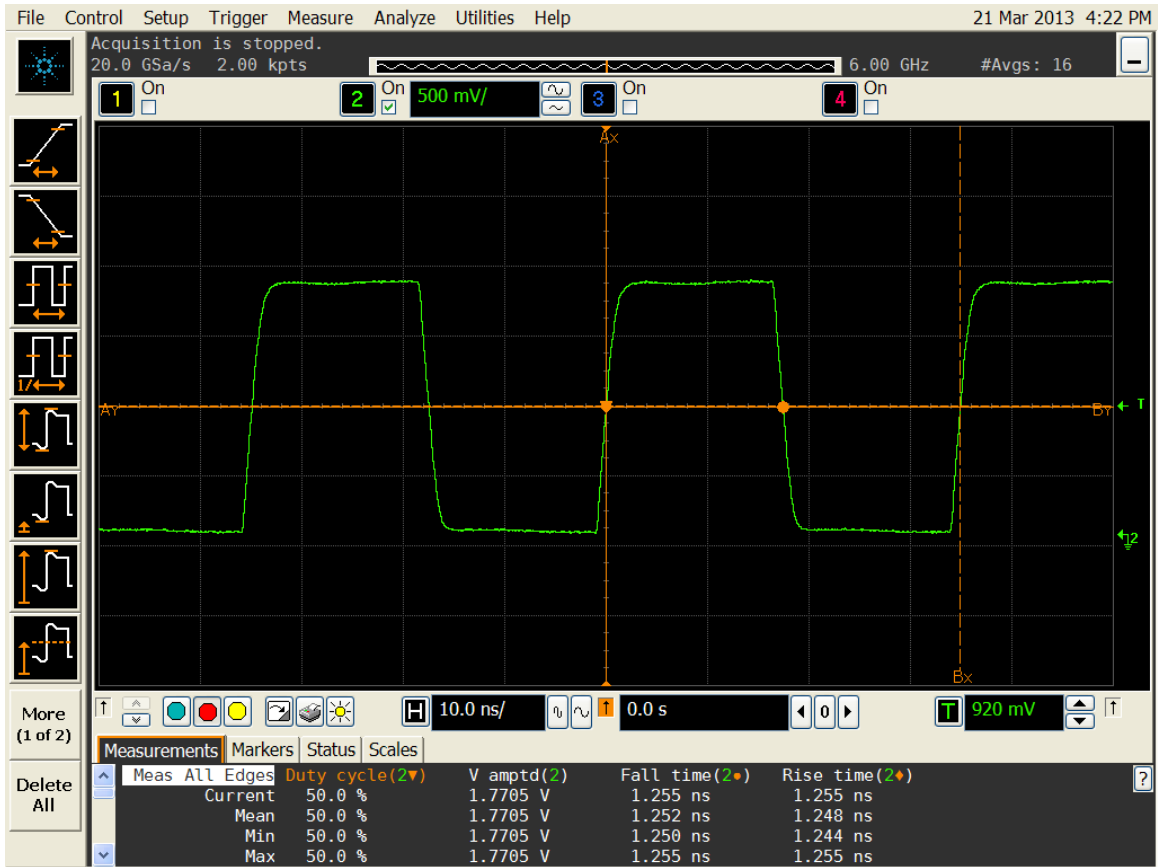


Figure 1. Duty cycle, Rise/Fall time and Amplitude 1.8V

| | | | | |
|----------------|---------------|--|--------------|---------------------|
| SiTime™ | Title: | Performance Report SiT2001B, 28.6363MHz | | |
| | Type: | Performance report | Rev: | 1.0 |
| | Orig: | | Date: | Mar 31, 2014 |

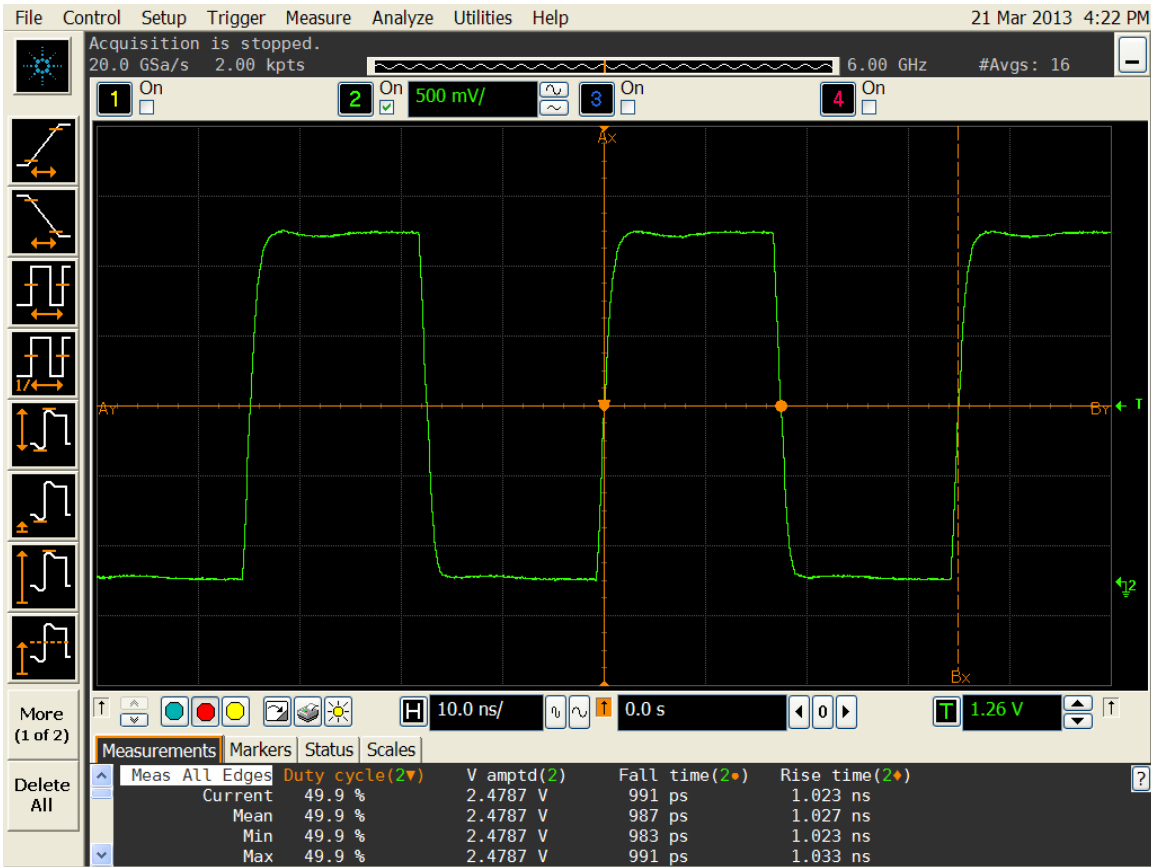



Figure 2. Duty cycle, Rise/Fall time and Amplitude 2.5V

The information contained in this document is confidential and proprietary to SiTime Corporation. Unauthorized reproduction or distribution is prohibited.

| | | | | |
|---|---------------|---|--------------|--------------|
|  | Title: | Performance Report SiT2001B, 28.6363MHz | | |
| | Type: | Performance report | Rev: | 1.0 |
| | Orig: | | Date: | Mar 31, 2014 |

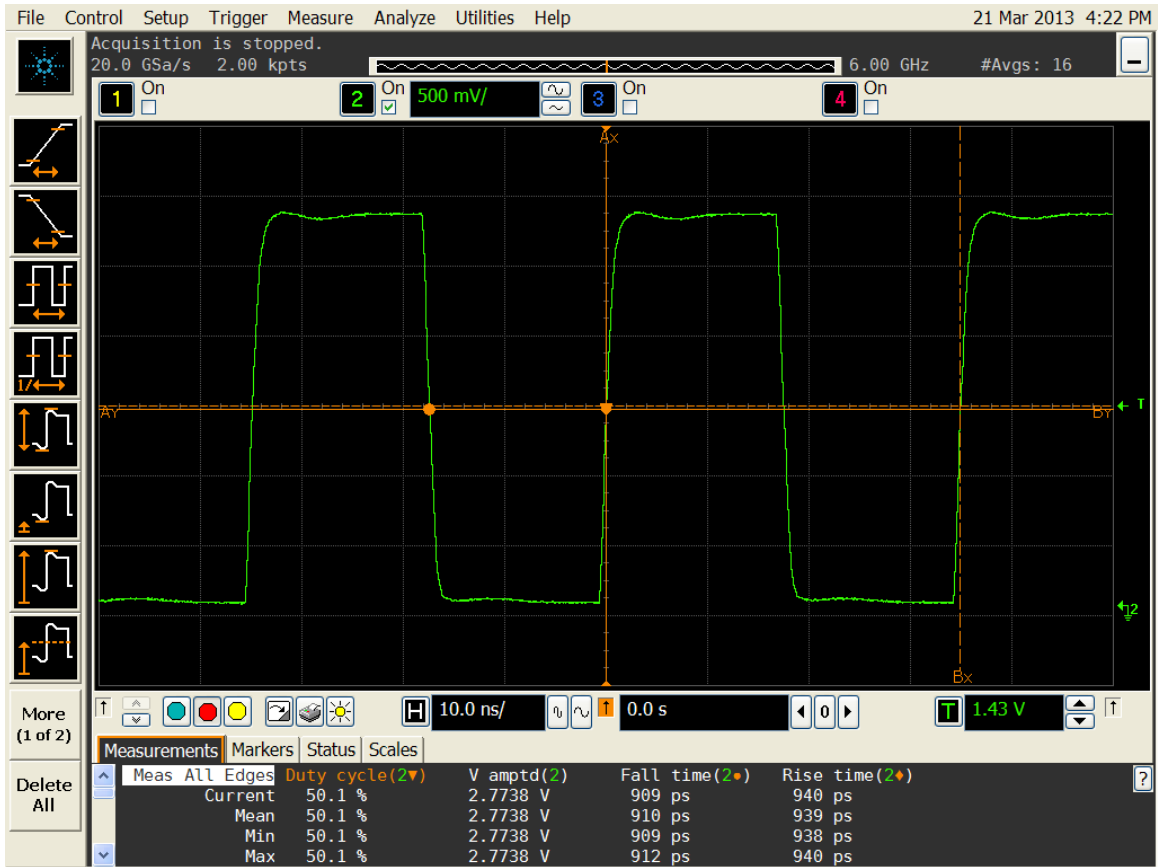



Figure 3. Duty cycle, Rise/Fall time and Amplitude 2.8V

The information contained in this document is confidential and proprietary to SiTime Corporation. Unauthorized reproduction or distribution is prohibited.

| | | | | |
|---|---------------|---|--------------|--------------|
|  | Title: | Performance Report SiT2001B, 28.6363MHz | | |
| | Type: | Performance report | Rev: | 1.0 |
| | Orig: | | Date: | Mar 31, 2014 |

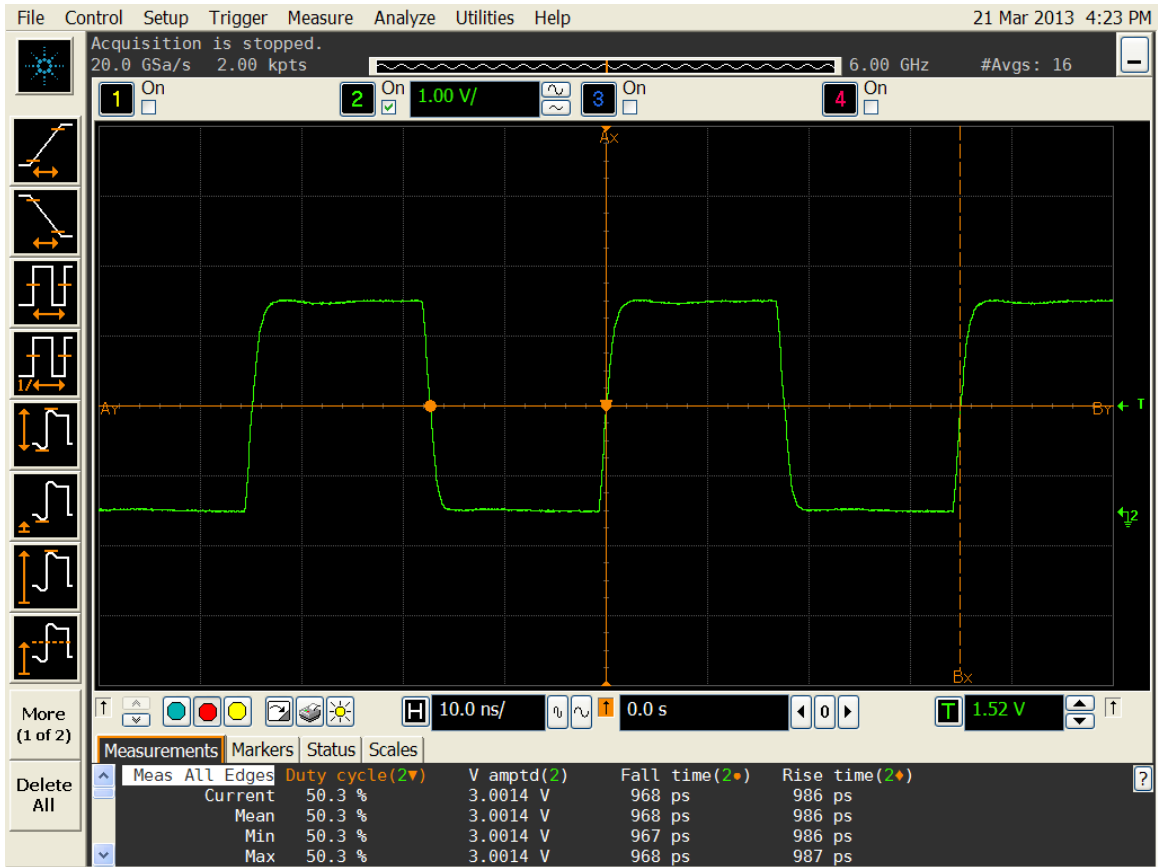



Figure 4. Duty cycle, Rise/Fall time and Amplitude 3.0V

The information contained in this document is confidential and proprietary to SiTime Corporation. Unauthorized reproduction or distribution is prohibited.

| | | | | |
|---|---------------|---|--------------|--------------|
|  | Title: | Performance Report SiT2001B, 28.6363MHz | | |
| | Type: | Performance report | Rev: | 1.0 |
| | Orig: | | Date: | Mar 31, 2014 |

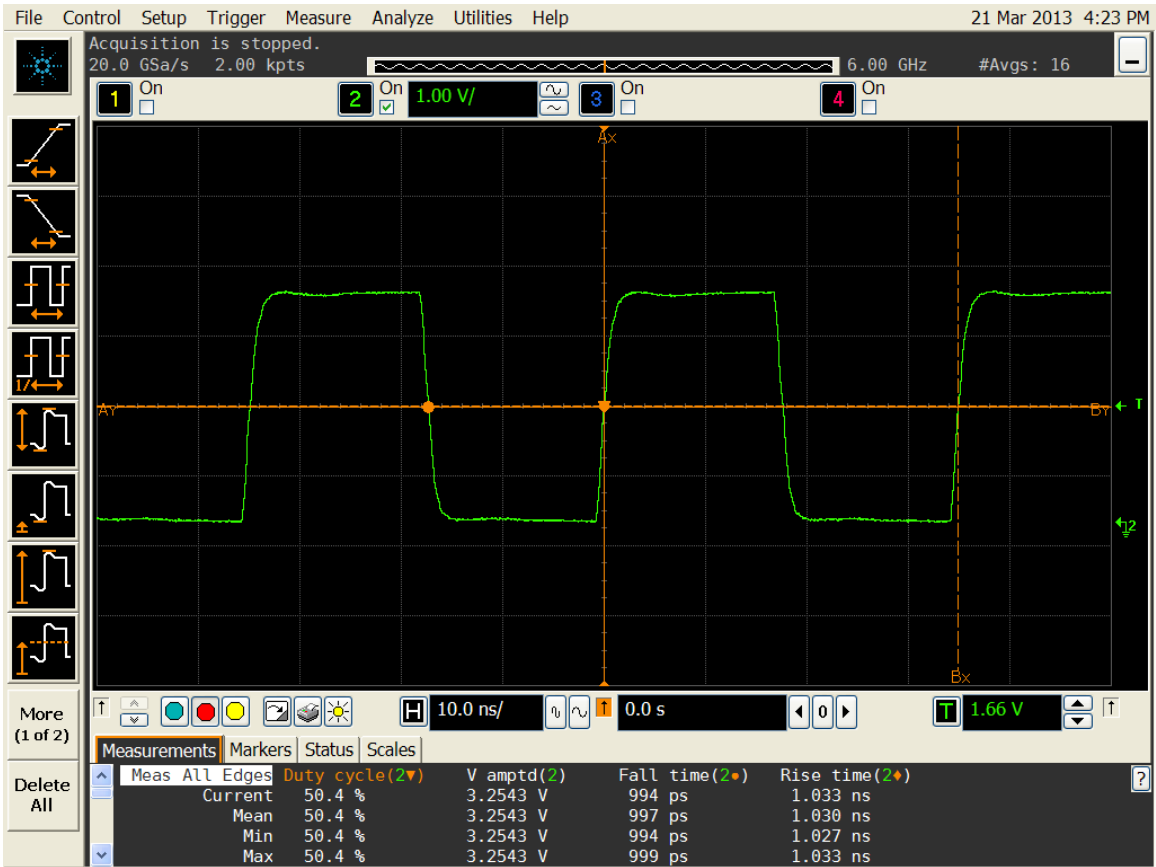


Figure 5. Duty cycle, Rise/Fall time and Amplitude 3.3V

The information contained in this document is confidential and proprietary to SiTime Corporation. Unauthorized reproduction or distribution is prohibited.

| | | | |
|----------------|---------------|--|---------------------------|
| SiTime™ | Title: | Performance Report SiT2001B, 28.6363MHz | |
| | Type: | Performance report | Rev: 1.0 |
| | Orig: | | Date: Mar 31, 2014 |

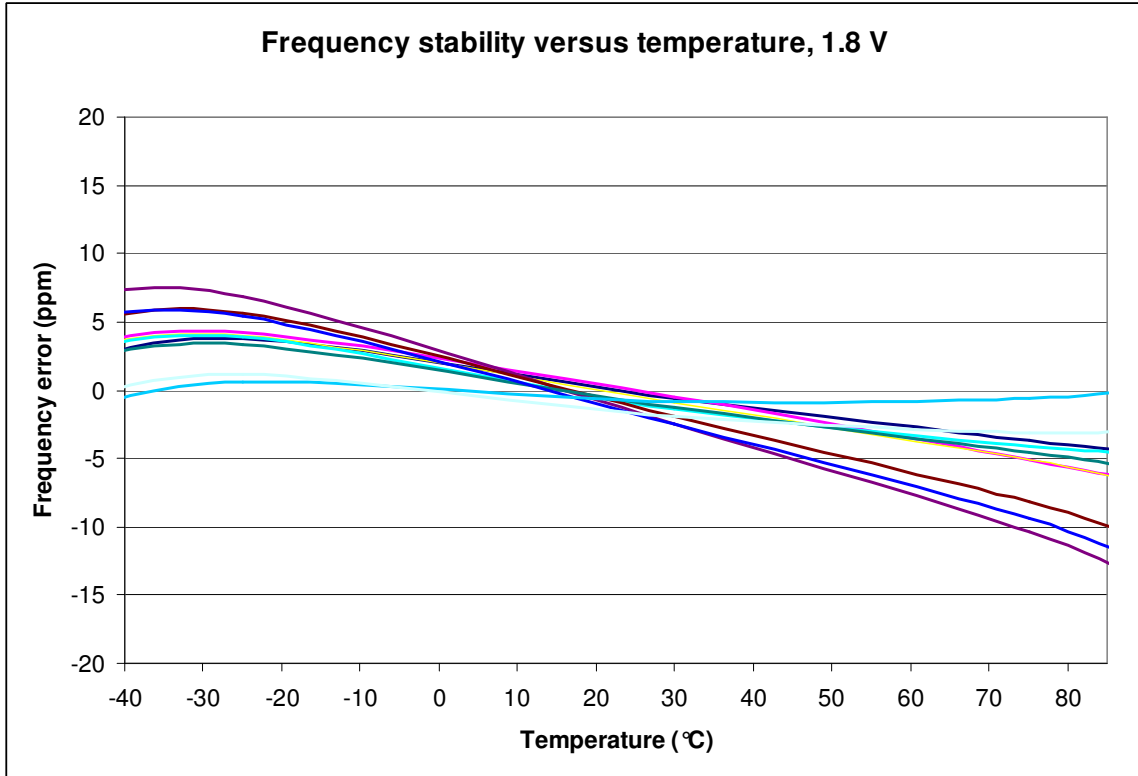


Figure 6. Frequency stability* versus temperature, 1.8 V

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

| | | | |
|----------------|---------------|--|---------------------------|
| SiTime™ | Title: | Performance Report SiT2001B, 28.6363MHz | |
| | Type: | Performance report | Rev: 1.0 |
| | Orig: | | Date: Mar 31, 2014 |

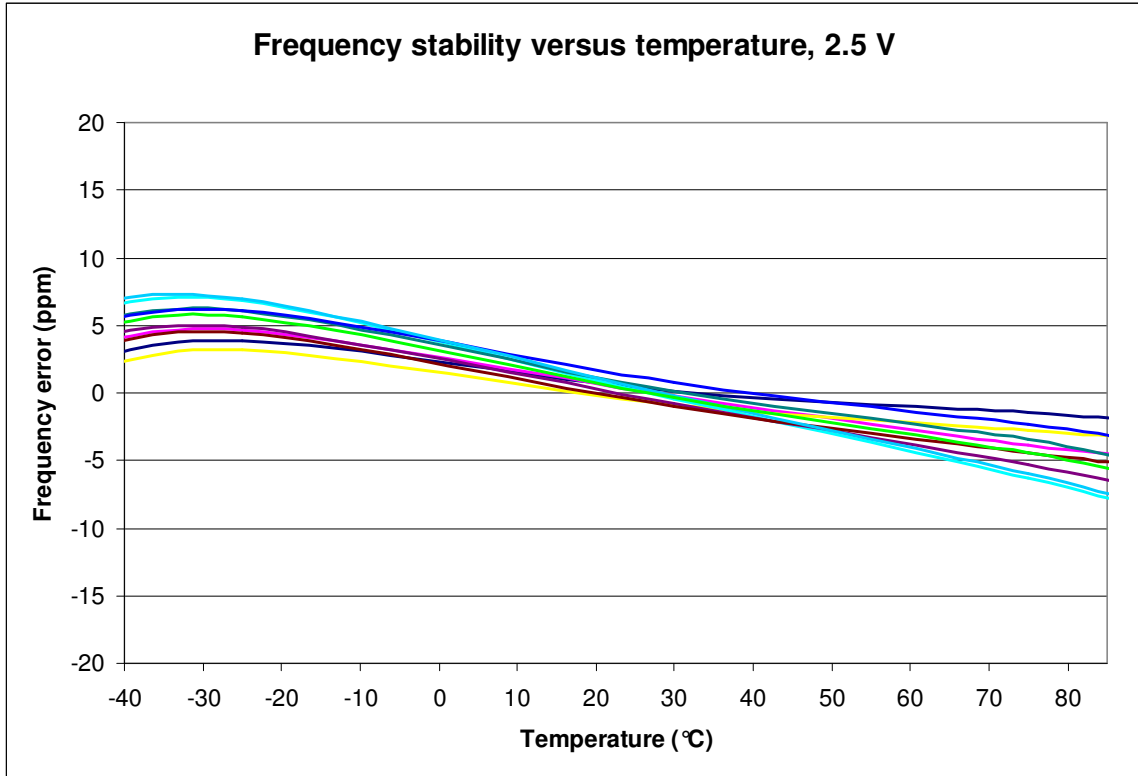



Figure 7. Frequency stability versus temperature, 2.5 V

The information contained in this document is confidential and proprietary to SiTime Corporation. Unauthorized reproduction or distribution is prohibited.

| | | | | |
|---|---------------|---|--------------|--------------|
|  | Title: | Performance Report SiT2001B, 28.6363MHz | | |
| | Type: | Performance report | Rev: | 1.0 |
| | Orig: | | Date: | Mar 31, 2014 |

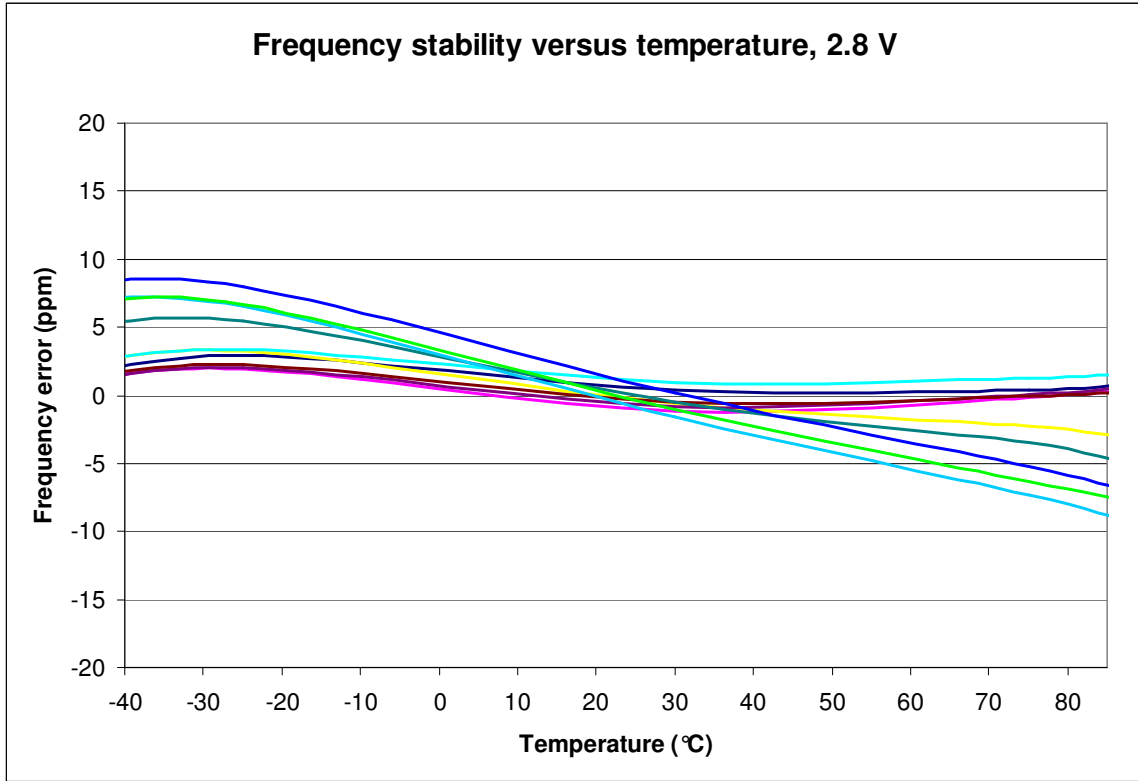


Figure 8. Frequency stability versus temperature, 2.8 V

The information contained in this document is confidential and proprietary to SiTime Corporation. Unauthorized reproduction or distribution is prohibited.

| | | | |
|----------------|---------------|--|---------------------------|
| SiTime™ | Title: | Performance Report SiT2001B, 28.6363MHz | |
| | Type: | Performance report | Rev: 1.0 |
| | Orig: | | Date: Mar 31, 2014 |

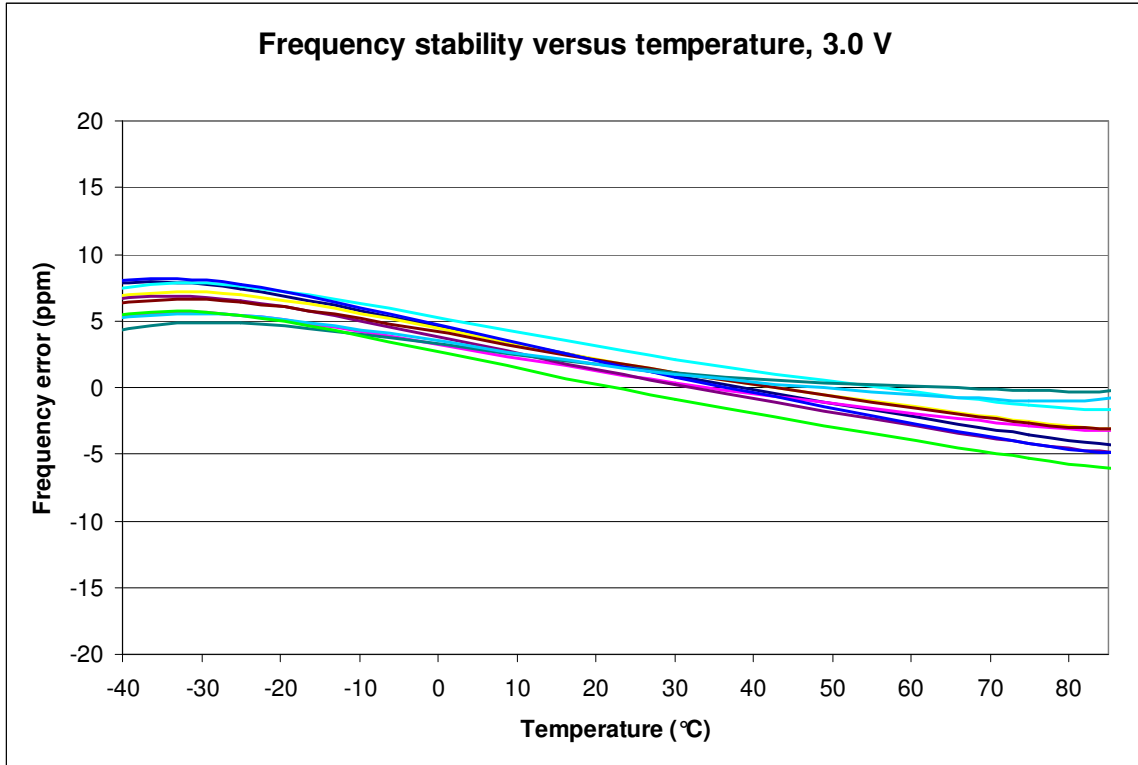


Figure 9. Frequency stability versus temperature, 3.0 V

The information contained in this document is confidential and proprietary to SiTime Corporation. Unauthorized reproduction or distribution is prohibited.

| | | | | |
|----------------|---------------|--|--------------|---------------------|
| SiTime™ | Title: | Performance Report SiT2001B, 28.6363MHz | | |
| | Type: | Performance report | Rev: | 1.0 |
| | Orig: | | Date: | Mar 31, 2014 |

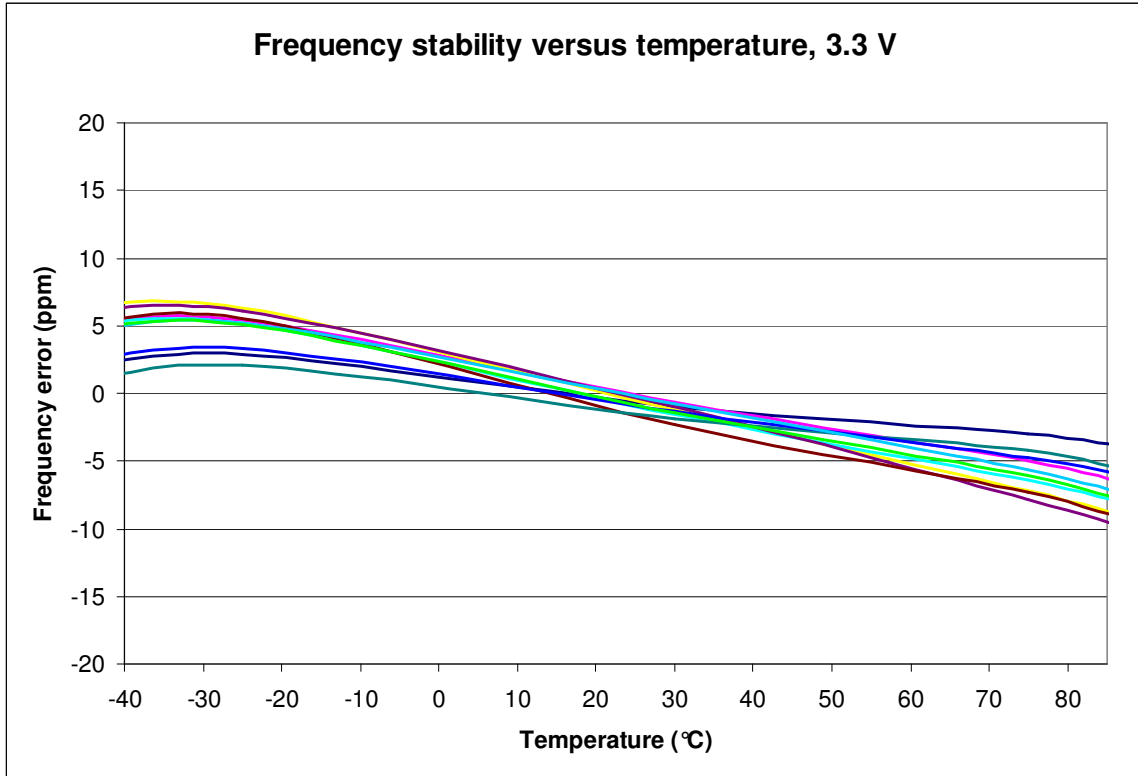


Figure 10. Frequency stability versus temperature, 3.3 V

The information contained in this document is confidential and proprietary to SiTime Corporation. Unauthorized reproduction or distribution is prohibited.