

High Accuracy Window Voltage Monitor

Summary

The included report shows DC and transient test results from the High Accuracy Window Monitor application TIDA–00396. The featured device for this application is the TPS3701 High Voltage Window Monitor/Dual Comparator.

Test Report

1.1 DC Accuracy

PARAMETER	CONDITIONS	TARGET	MEASURED
V_{MON} Current Consumption	VDD = 24 V, V_{PULLUP} current not included	18.5 μ A	18.5 μ A
Undervoltage Falling Threshold ($V_{MON(UV)}$)	VDD = V _{MON}	21.6 V	21.70 V
Undervoltage Rising Threshold ($V_{MON(UV_HYS)}$)	VDD = V _{MON}	21.9 V	21.98 V
Overvoltage Falling Threshold ($V_{MON(OV)}$)	VDD = V _{MON}	26.1 V	26.05 V
Overvoltage Rising Threshold ($V_{MON(OV_HYS)}$)	VDD = V _{MON}	26.4 V	26.41 V

1.2 Transient Performance

1.2.1 $V_{DD} = V_{MON}$, $V_{PULLUP} = 3.3\text{ V}$

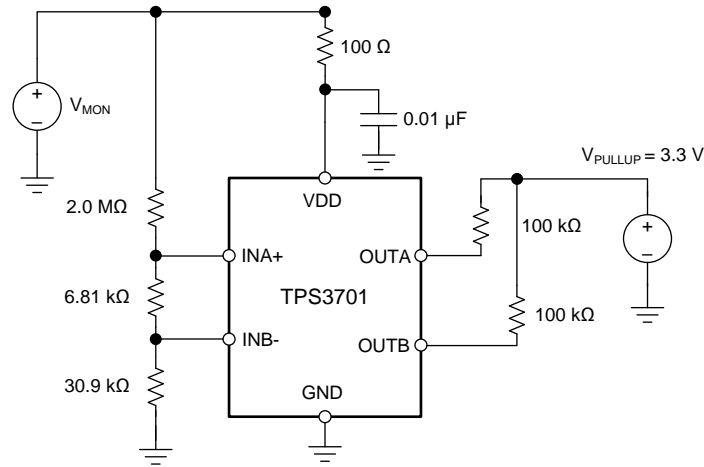


Figure 1: Application Configuration with $V_{DD} = V_{MON}$, $V_{PULLUP} = 3.3\text{ V}$

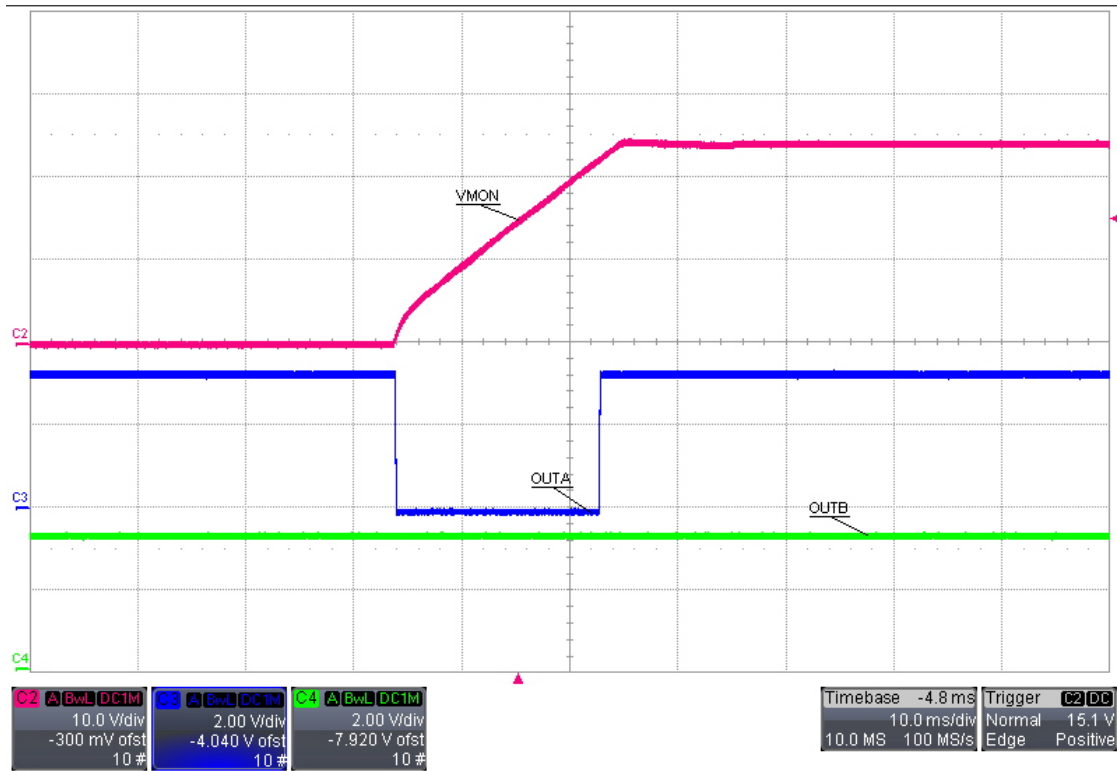


Figure 2: Startup with $V_{DD} = V_{MON}$, $V_{PULLUP} = 3.3\text{ V}$

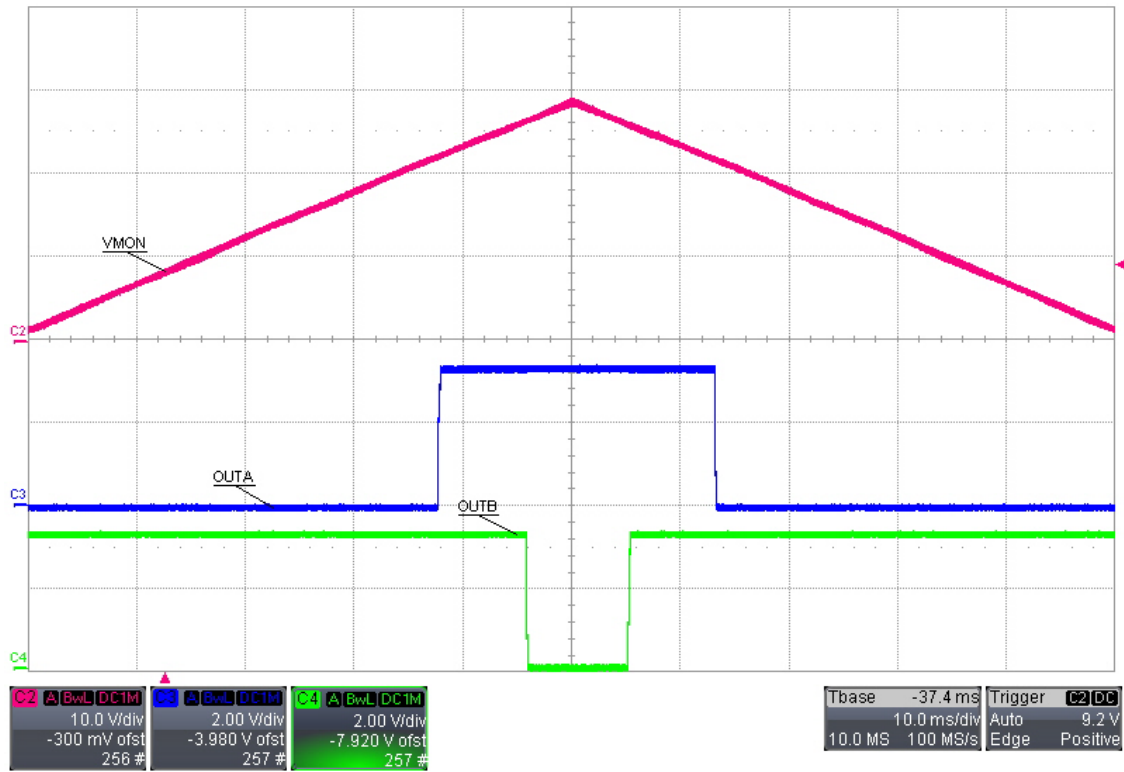


Figure 3: Ramping waveform with $V_{DD} = V_{MON}$, $V_{PULLUP} = 3.3\text{ V}$

1.2.2 $V_{DD} = V_{MON} = V_{PULLUP}$

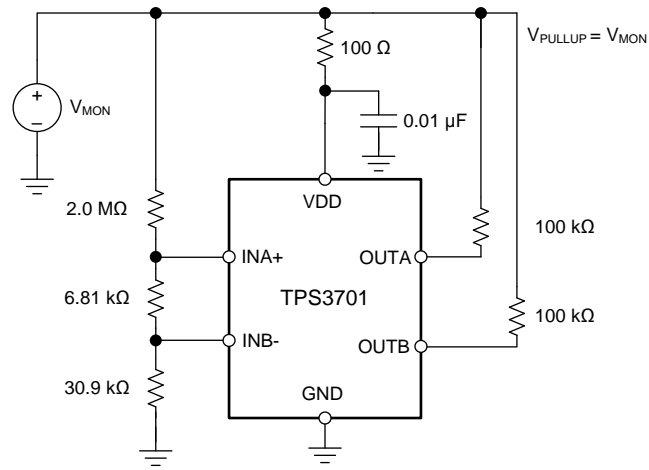


Figure 4: Application Configuration with $V_{DD} = V_{MON} = V_{PULLUP}$

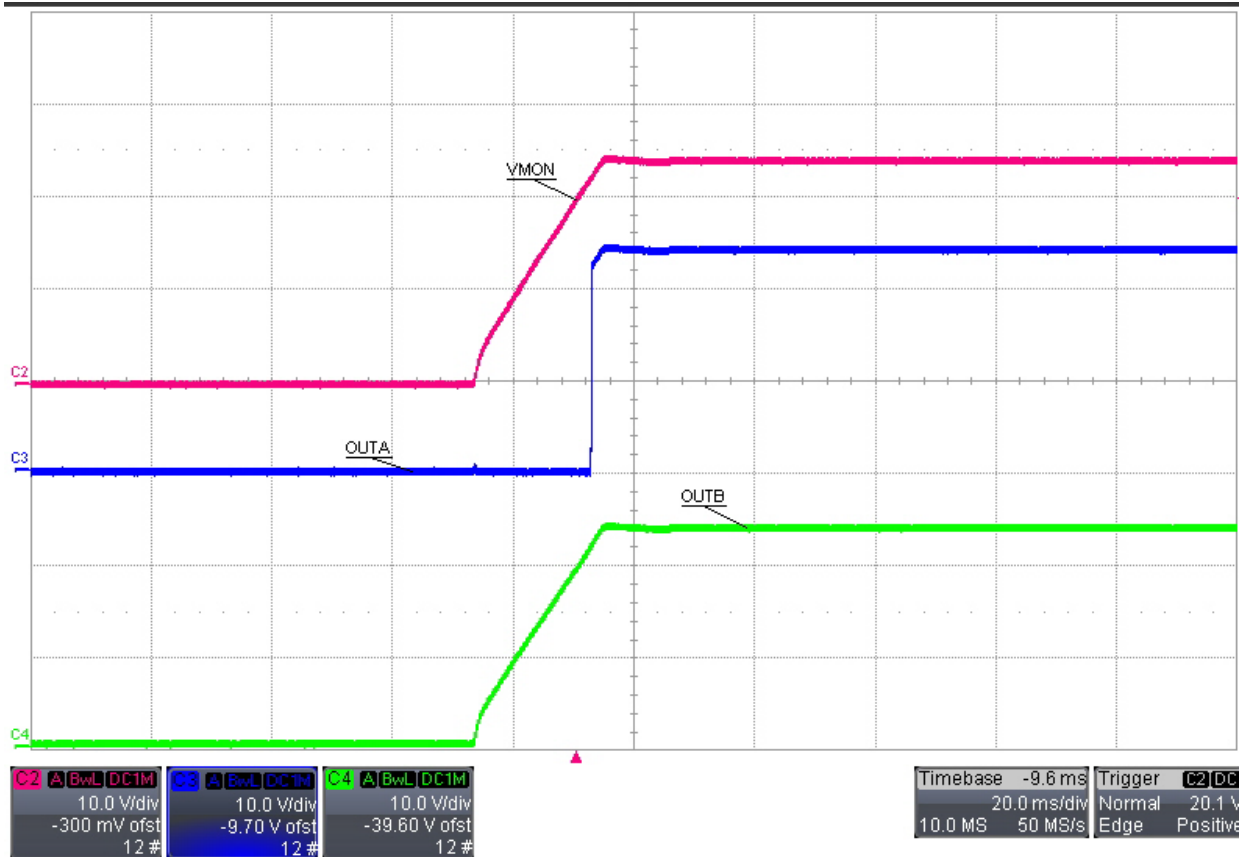


Figure 5: Startup with $V_{DD} = V_{MON} = V_{PULLUP}$

1.2.3 V_{DD} , V_{MON} Independent, $V_{PULLUP} = 3.3\text{ V}$

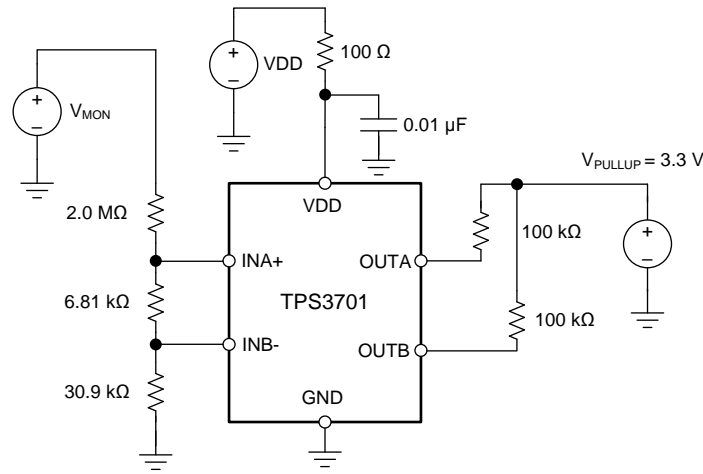


Figure 6: Application Configuration with V_{DD} , V_{MON} Independent, $V_{PULLUP} = 3.3$



Figure 7: Startup with V_{DD} , V_{MON} Independent, $V_{PULLUP} = 3.3$

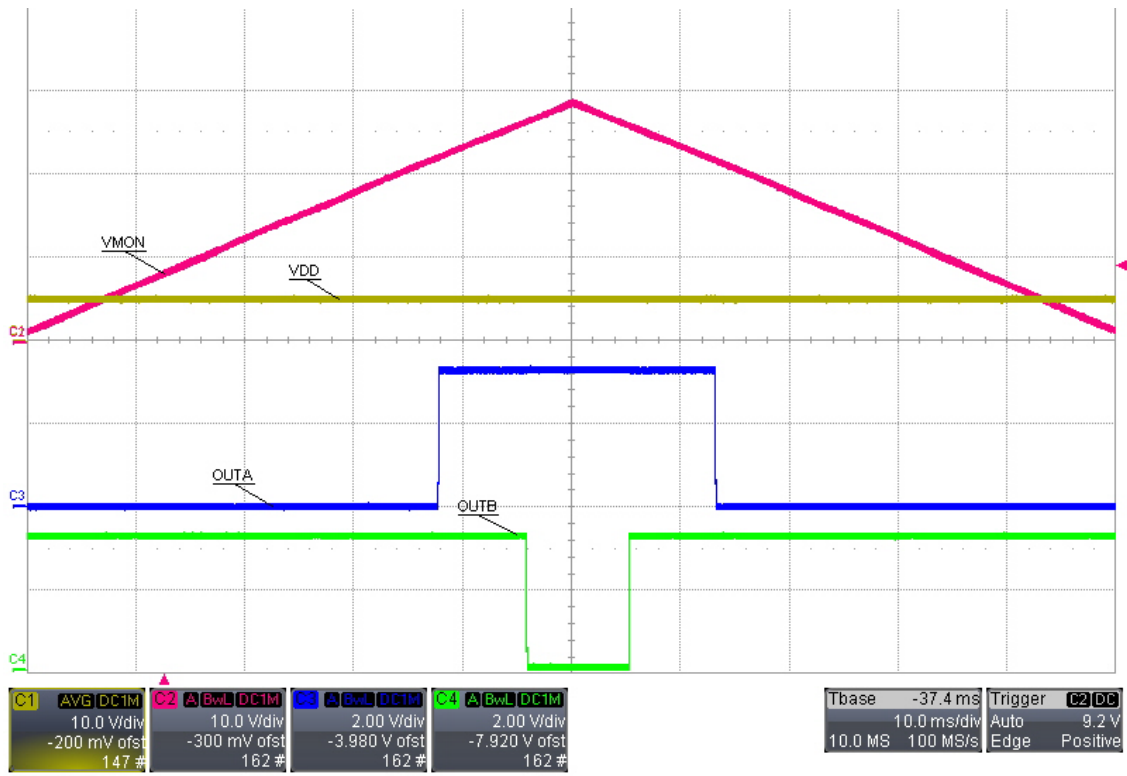


Figure 8: Ramping waveform with V_{DD} = 5 V, V_{MON} Ramping, V_{PULLUP} = 3.3 V

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