

Design Verification Testing

Introduction

This Application Note guides the reader through the design of a TFT display system for automotive applications. The design has been tested and verified to meet the design requirements for all operating conditions. This document describes test results for power-up and power-down sequences as well as behavior during cold-crank events.

Finally, the entire system power consumption has been measured during Sleep mode; resulting in 105μA current consumption at 12V battery voltage.

Test Equipment Used

The following equipment was used for design verification:

4.5V to 18V Power supply.

Current Meter.

HDMI source (PC laptop).

Tests Conducted

The tests listed below were completed on the MAXREFDES1034 and the results follow.

Automotive 42V Input Voltage Load Dump

Automotive Input Voltage Cold Crank

4.5V to 18V full operation

Quiescent Current Measurement

TEST RESULTS

Power-Up and Power-Down Sequences

Figure 1 and 2 show power up and power down sequences. The sequences are in accordance with the design target discussed before.

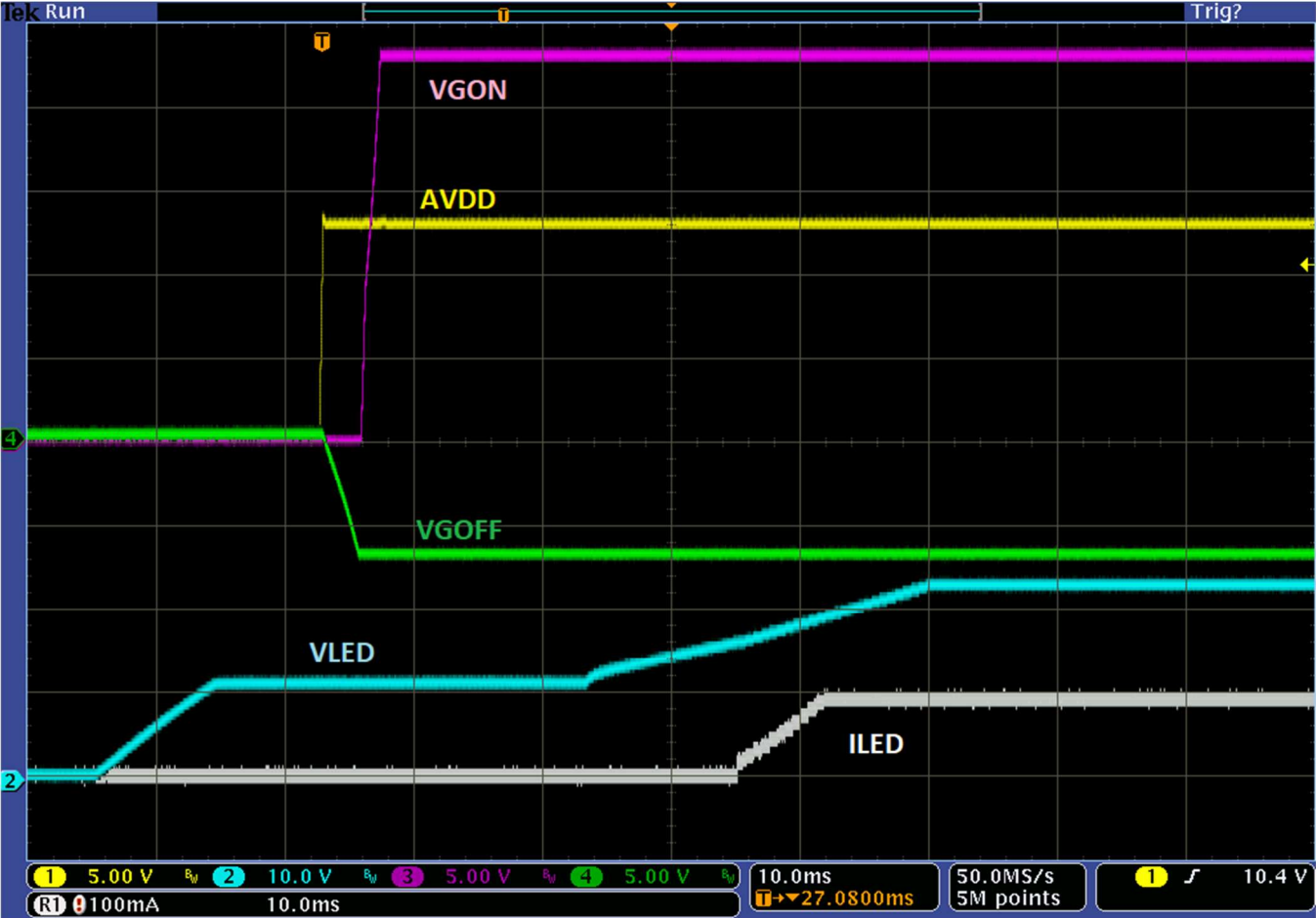


Figure 1. Power-up sequence.

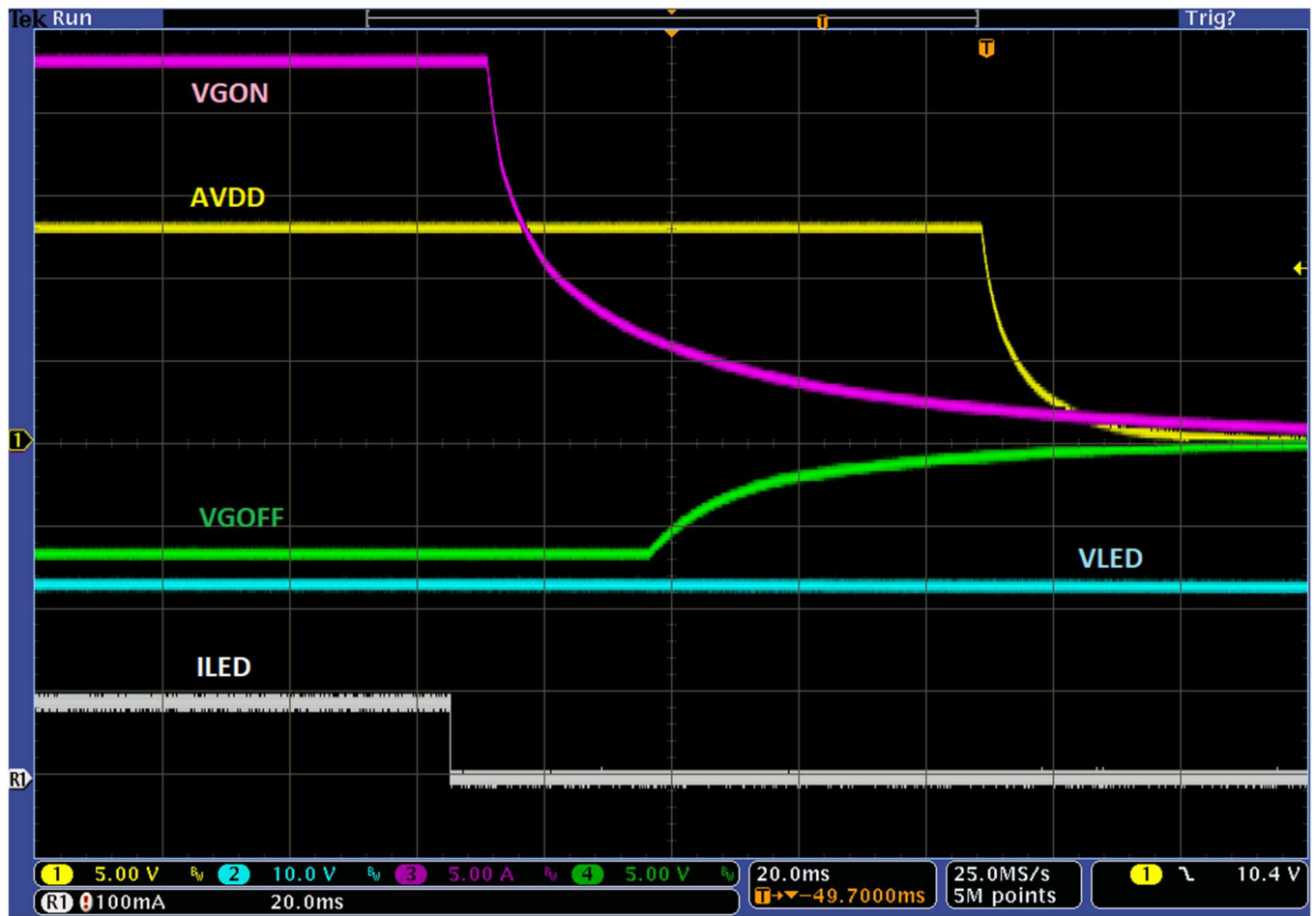


Figure 2. Power-down sequence.

Cold-Crank Event Behavior

Figure 3 shows the behavior of the system during a cold crank event. For clarity only the AVDD rail and backlight signals are illustrated. It is possible to observe how the system continues to work perfectly even with the battery dropping down to 5V.



Figure 3. Cold crank event.

REVISION HISTORY

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	3/18	Initial Release	-



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