SN65HVD231 and SN65HVD232 Output

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Introduction

Customer question was if the output of the SN65HVD231 with Rs pin tied to GND for high speed mode was the same as SN65HVD232 which by default has high speed output mode.

By device family these outputs should be the same by design with only device to device variation from process variation. A unit of each was tested in the lab.

Contents

1 TEST SET UP

Below are the test set ups for each device on a TI CAN bench test board.

Figure 1: Test Setup For SN65HVD231

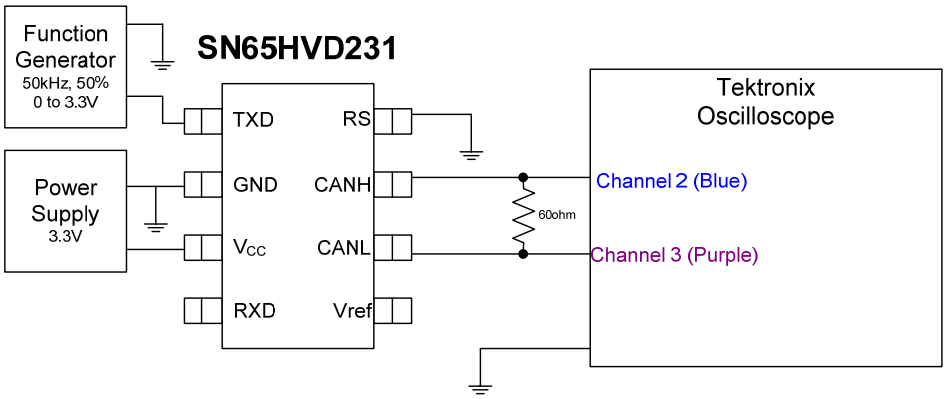
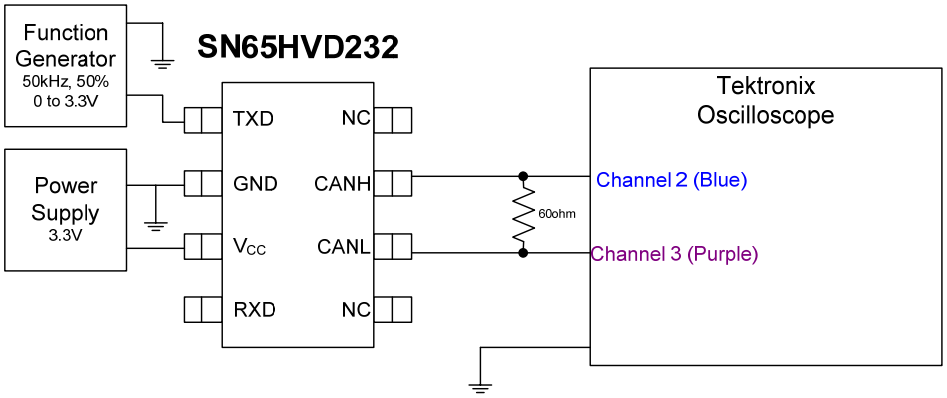


Figure 2: Test Setup For SN65HVD232



2 MEASUREMENTS

Using the cursor function of the oscilloscope both the CANH high level (V_{OH}) and CANL low level (V_{OL}) signals differential CAN bus outputs were measured with the math function showing the differential dominant output ($V_{OD(D)}$)

Device	Lot Trace	CANH V_{OH}	CANL V_{OL}	$V_{OD(D)}$
SN65HVD231	76M CH81	2.93V	910mV	2.02V
SN65HVD232	77M ARXR	2.93V	910mV	2.02V

Figure 3: SN65HVD231 Scope Shot

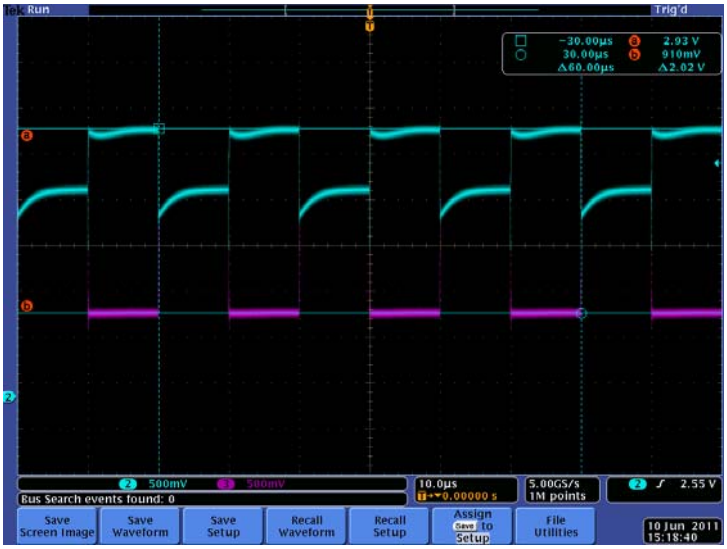
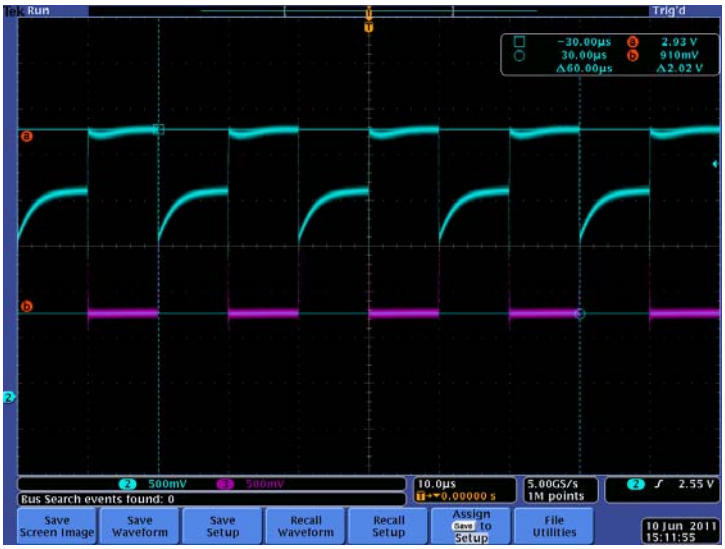


Figure 4: SN65HVD232 Scope Shot



3 SUMMARY

The SN65HVD232 and SN65HVD231 with Rs pin tied to GND for high speed mode behave the same in the lab under a 60 ohm load.