
ERRATA TO THE TSB11LV01 DATA SHEET (TEXAS INSTRUMENTS LITERATURE NO. SLLS232B, MAY 1997)

This document contains corrections and additions to information in the TSB11C01 data sheet (TI Literature Number SLLS232B, May 1997), also included in *IEEE 1394 Circuits Data Book*, 1997 (TI Literature Number SLLD004).

- a. The TSB11LV01 device reports itself as a 3-port phy in the NP field of Register address 2 with ports 2 and 3 not connected. TI plans to correct this in a future revision.
- b. Electrical isolation as described in Appendix J of IEEE 1394–1995 is not currently recommended by TI. The TSB11LV01 device is not tested to a level that would be required to implement the isolation in Appendix J of the standard. TI has an improved isolation technique, which is the recommended isolation solution. In a future revision, TI plans to add internal bus holders to support its new isolation scheme.
 - Please see *Galvanic Isolation of the IEEE 1394–1995 Serial Bus* (TI Literature Number SLLA011).
- c. If CTRL 0 and CTRL 1 are high when LPS is switched from low to high, the phy-link interface hangs in the high-impedance state. TI plans to correct this in a future revision.
- d. The twisted-pair output terminals do not meet current source specifications at high common-mode signal voltages and low supply voltages. Minimum supply voltage for a single-port power sourcing implementation is 3.3 V. TI plans to correct this in a future revision.
- e. The TSB11LV01 transmits data_end for 220 ns to 225 ns, while the IEEE 1394–1995 standard calls for 240 ns to 260 ns. There are currently no plans to change this in the future.
- f. The current revision of the TSB11LV01 device has gap times set to:
 - $\text{subaction-gap} = ((\text{gap_count} \times 16) + \text{state_machine_delay}) \times \text{BASE_RATE_PERIOD}$
 - $\text{arb-reset-gap} = ((\text{gap_count} \times 32) + \text{state_machine_delay}) \times \text{BASE_RATE_PERIOD}$where the BASE_RATE_PERIOD is 10 ns and the state_machine_delay for the TSB11LV01 is 8 ns for both subaction gap and arb-reset gap. This varies from the standard in that the state_machine_delay does not match the specification values of 28 and 52 for the respective gaps.

All phys have a hysteresis time (arbitration delay time) built in, which is set to:

 - $\text{delay time} = ((\text{gap_count} \times 4) + \text{state_machine_delay}) \times \text{BASE_RATE_PERIOD}$After a subaction-gap or arb-reset-gap has been detected, the phy sends the appropriate status to the link. The TSB11LV01 waits for the delay-time period and then services any bus requests made to the link.
- g. The received data prefix (data prefix time + speed signal length) for the TSB11LV01 has a minimum time of 180 ns. If the node transmitting to the 11LV01 does not provide 180 ns of data prefix, the first few bits of the packet may be missed. The remainder of the packet will be transferred to the link where it will fail the CRC checks and be ignored. If the node is repeating data, only that portion of the packet recognized (after the missed bits) will be repeated.

All TI physical layers provide at least 180 ns of data prefix.



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