Application Note:

Introduction to interfacing the Hitachi SCA-II to the PCI Bus

Objective

This application note describes how to interface 32-bit Hitachi HD64572 Advanced Serial Communications Adapter (SCA-II) with the V962PBC (PBC) PCI bridge . Target applications include PCI based adapter cards and SCA-II based embedded system.

Throughout this document, references will be made to the operation of the V962PBC. Basic familiarity with this devices is assumed. If you don't have the relevant data sheets and user manuals for them then please contact V3. You can also download them from the V3 Semiconductor web site. Contact information (including the location of the V3 web site) is located on the back of this document.

Overview

Although the V962PBC is designed to interface gluelessly to the Intel i960Cx processors, it can also be adapted for the Hitachi SCA-II adapter. Adapting the V962PBC to the Hitachi SCA-II interface involves conversion of the i960-Cx protocol of the V962PBC to the Hitachi SCA-II Motorola (mode2,3) style bus access interface or vice versa. The interface supports both the master and slave mode 2,3 of the SCA-II adapter.

Hitachi SCA-II Slave Mode

Adapt the V962PBC to the Hitachi SCA-II adapter bus : In this scenario, the common local bus will be Hitachi based and the i960Cx protocol of the V962PBC will be converted to i960Cx protocol. This is when the local bus peripherals are designed specifically of the SCA-II (mode2,3) bus.

Hitachi SCA-II Master Mode

Adapt the Hitachi SCA-II to the V962PBC bus : In this scenario, the i960Cx protocol of the V962PBC will be used as the internal local bus protocol. This is accomplished by converting the SCA-II mode2,3 signals into i960Cx equivalents. Thus SCA-II can access the local bus peripherals and the PCI peripherals via the V962PBC.

PLD Source Code

The following source code is written in VHDL and can be targeted at a number of small, low cost PLD devices.

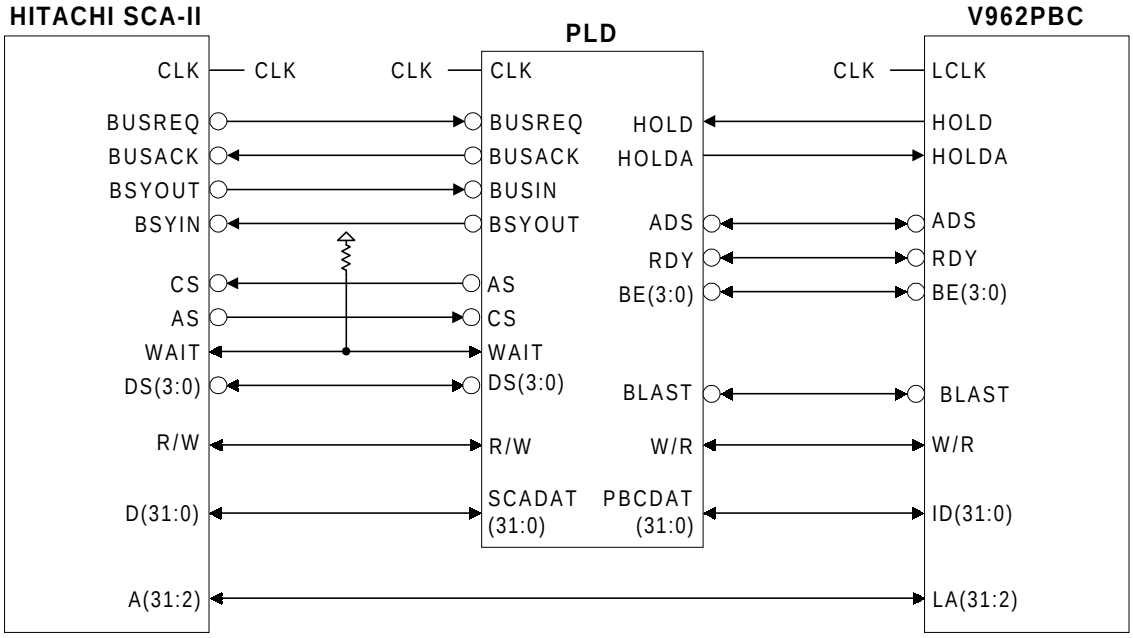

Figure 1: Interconnection between SCA-II and V962PBC

PLD Design

To obtain detailed design information and PLD source code, please contact V3 Semiconductor at:

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