PERICOM
Enabling Serial Connectivity

Product: **PCI® Quad UART I/O Bridge**

Part Numbers: **PI7C8954**

Product Description

The PI7C8954 is a PCI® Quad UART (Universal Asynchronous Receiver-Transmitters) I/O Bridge. It is specifically designed to meet various system requirements of high performance and lead (Pb) -free. The bridge can be used in a wide range of applications such as Remote Access Servers, Automation, Process Control, Instrumentation, POS, ATM and Multi-port RS232/RS422/RS485 Cards. The PI7C8954 provides standard PCI® connection, and it is fully compliant with 32-bit PCI Bus 2.3 specifications. The bridge supports four high performance UARTs, each of which supports Baud rate up to 15 Mbps in asynchronous mode. The UARTs support in-band and out-band auto flow control, arbitrary trigger level, I/O mapping and memory mapping, IrDA (Infrared Data Association) encoder/decoder, 8 general purpose I/O and 16-bit timer counter. The PI7C8954 is fully software compatible with 16C550 type device drivers and can be configured to fit the requirements of RS232, RS422 and RS485 applications. The EEPROM interface is provided for system implementation convenience. Some registers can be pre-programmed via hardware pin settings to facilitate system initialization. For programming flexibility, all of the default configuration registers can be overwritten by EEPROM data, such as sub-vendor and sub-system ID.

Industry Specifications Compliance

- PCI Specification, Revision 2.3 compliance

Features

- Four high performance 950-class UARTs
- Universal PCI Bus Buffers – Auto sense 3.3V or 5V operation
- Fully 16C550 software compatible UARTs
- 128-byte FIFO for each transmitter and receiver
- Baud rate up to 15 Mbps in asynchronous mode
- Flexible clock prescaler from 4 to 46
- Data Transfer in Byte, Word and Double-word
- Data Read/Write Burst Operation
- Automated in-band flow control using programmable Xon/Xoff in both directions
- Automated out-of-band flow control using CTS#/RTS# and/or DSR#/DTR#
- Arbitrary trigger levels for receiver and transmitter FIFO interrupts and automatic in-band and out-band flow control
- Global Interrupt Status and readable FIFO levels to facilitate implementation of efficient device drivers
- Detection of bad data in the receiver FIFO
- Data framing size including 5, 6, 7, 8 and 9 bits
- Infrared (IrDA 1.0/1.1) Data Encoder/Decoder
- Auto RS-485 Half-duplex Output with Control Polarity Selector
- Eight General Purpose Inputs/Outputs
- A General Purpose 16-bit Timer/Counter

- Hardware reconfiguration through EEPROM
- Operations via I/O or memory mapping
- Sleep Mode with Automatic Wake-up
- Dual power operation (3.3V or 5.0V for PCI I/O and 1.8V-5.0V for UART I/O)
- Power dissipation: 150 mW typical in normal mode
- Industrial Temperature Range -40° to 85°
- Package: 20x20mm, 144-pin LQFP, w/0.5mm pin pitch - Pb free and 100% Green.

Software support

- Microsoft™ Windows 2003/XP/Vista/Windows Embedded/Windows 8/Windows 8.1/Windows 10 32/64 bit
- Microsoft™ Windows CE 6.0
- Linux 2.6, RedHat 6.5 and above

Applications

- Remote Access Servers
- Network / Storage Management
- Factory Automation and Process Control
- Instrumentation
- Multi-port RS-232/ RS-422/ RS-485 Cards
- Point-of-Sale Systems (PoS)
- Industrial Control (IPC)
- Gaming Machines
- Building Automation
- Embedded Systems
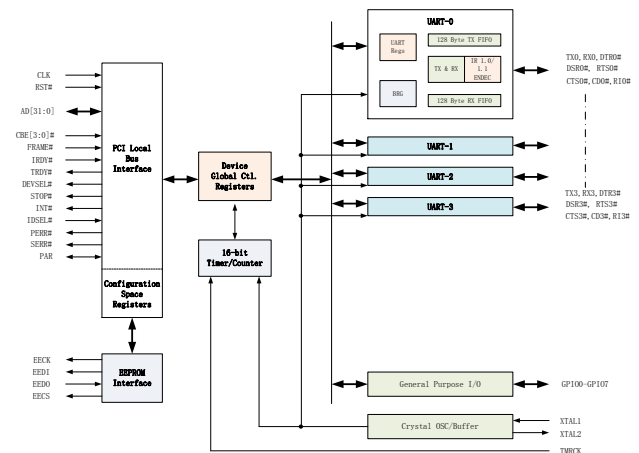
PI7C8954 Block Diagram

Order Information

PART NUMBER	PACKAGE	PB-FREE & GREEN	TEMPERATURE
PI7C8954AFHE	144 LQFP	YES	-40°C TO 85°C
PI7C8954AEVB	Board	Evaluation Board for PI7C8954A	

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Rev 1.1

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