XR17V252/254/258
66 MHz 32-bit PCI Bus Dual, Quad and Octal UARTs with Power Management Support

Ideal for High Speed Data Transmission

The XR17V252[1] (V252), XR17V254[1] (V254) and XR17V258[1] (V258) are single chip 2, 4 and 8-channel 66MHz PCI (Peripheral Component Interconnect) UART (Universal Asynchronous Receiver and Transmitter) solutions, optimized for applications that require high speed data transmission. These devices with their fifth generation register set are designed to meet the high bandwidth and power management requirements for multi-serial communication ports for system administration and management. The 32-bit 66MHz PCI interface is compliant with PCI 3.0 and PCI power management revision 1.1 specifications. The devices provide an upgrade path for Exar's 33MHz 5V and Universal PCI UART family of products. The V252 is available in a 100-lead TQFP and the V254 and V258 are available in a 144-lead LQFP package.

The V252 consists of two independent UART channels whereas the V254 consists of four and the V258 consists of eight independent channels. Each device has a set of configuration and enhanced registers, 64 bytes of Transmit (TX) and Receive (RX) FIFOs, and a Fractional Baud Rate Generator (FBRG). A global interrupt source register provides a complete interrupt status indication for all channels (two, four or eight) to speed up interrupt parsing. These devices operate at 33/66MHz and feature fully programmable TX and RX FIFO level triggers, automatic hardware and software flow control, as well as an automatic RS-485 half-duplex direction control output for software and hardware design simplification.

Major Features

- **High performance 32-bit 66MHz PCI UART**
- **PCI 3.0 Compliant**
- **PCI power management rev. 1.1 compliance**
- **EEPROM interface for PCI configuration**
- **3.3V supply with 5V tolerant non-PCI (serial) inputs**
- **Data read/write burst operation**
- **Global interrupt register for each UART channels**
- **Up to 8 Mbps serial data rate**
- **Eight multi-purpose inputs/outputs**
- **A 16-bit general purpose timer/counter**
- **Sleep mode with wake-up Indicator**
- **TQFP-100 package for V252**
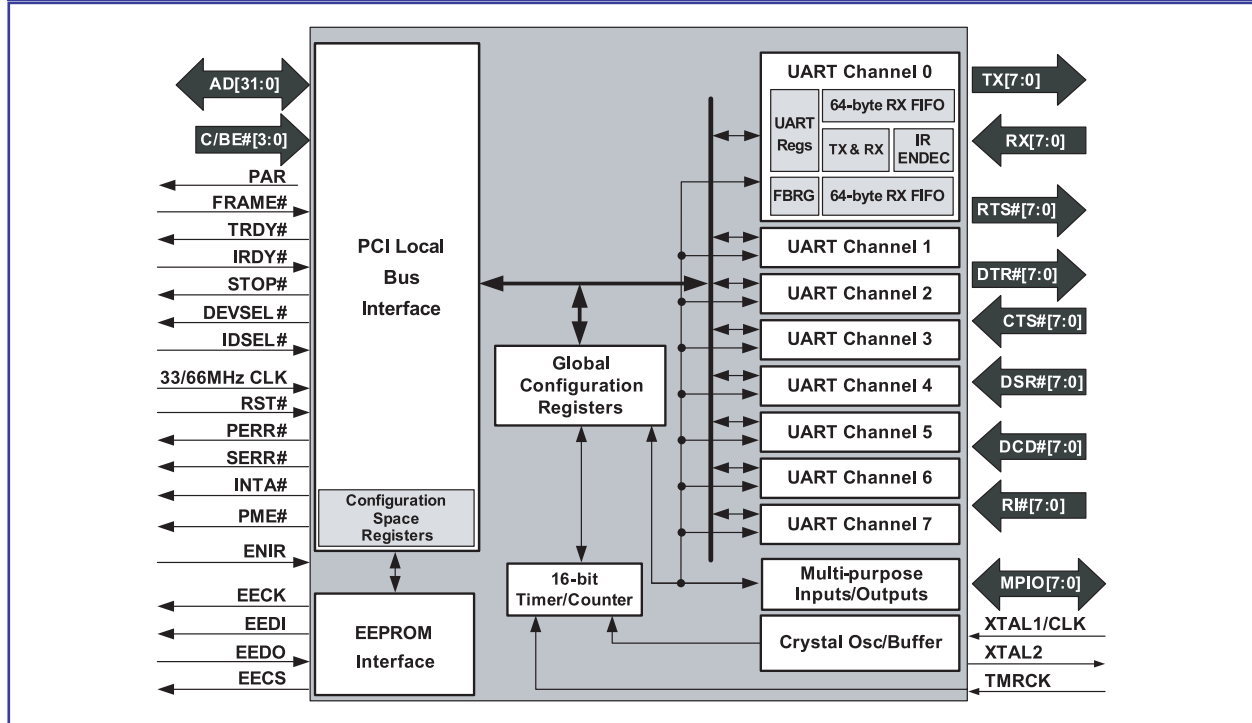- **LQFP-144 package for V254 and V258**

[1]Covered by U.S. Patents #5,649,122 and #5,949,787

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XR17V258 Block Diagram

Features

- Two, four or eight independent UART channels controlled with

  - 16C550 compatible register Set

  - 64-byte TX and RX FIFOs with level counters and programmable trigger levels

  - Fractional Baud Rate Generator

  - Automatic RTS/CTS or DTR/DSR hardware flow control with programmable hysteresis

  - Automatic Xon/Xoff software flow control

  - RS-485 half-duplex direction control output with selectable turn-around delay

  - Infrared (IrDA 1.0) data encoder/decoder

Applications

- Remote Access Servers

- Storage Network Management

- Factory Automation and Process Control

- Instrumentation

- Multi-port RS-232/RS-422/RS-485 Cards

- Point-of-Sale Systems

Ordering Information

Product No.	Package	Operating Temp. Range
XR17V252IM	100-Lead TQFP	-40°C to +85°C
XR17V254IV	144-Lead LQFP	-40°C to +85°C
XR17V258IV	144-Lead LQFP	-40°C to +85°C