XR16V2750/2751/2752
High Performance DUART with 64-Byte FIFO

Ideal for High Speed Data Transmission

The XR16V2750/XR16V2751/XR16V2752 (XR16V275x) product family consists of two high performance universal asynchronous receiver-transmitter (UART) with 64 byte transmit and receive FIFOs. Each UART is compatible to the industry standard 16550 UART, but with enhanced features such as programmable TX and RX FIFO trigger levels, automatic hardware (RTS/CTS) flow control, automatic software (XON/XOFF) flow control, sleep mode, automatic RS485 half-duplex direction control and a fractional baud rate generator.

In addition, the XR16V2751 has three additional features: Intel/Motorola bus select, PowerSave mode and Auto RS485 half-duplex control pin. The XR16V2751 can operate in either the Intel bus mode (CS#, IOR#, IOW#) or the Motorola bus mode (CS#, R/W#). The XR16V2750 and XR16V2752 can operate only in the Intel bus mode. When the XR16V2751 is in the sleep mode, the PowerSave mode can further reduce the power consumption by isolating the address, data and control lines from the CPU. The Auto RS485 half-duplex control pin allows the XR16V2751 to power up in receive mode so that it does not hang an RS485 network.

The fractional baud rate generator is a new feature that provides more flexibility on the selection of a clock or crystal frequency. Traditionally, the baud rate generator allowed divisors of 1 to 2^{16} in increments of 1. By being limited to whole numbers, there were only specific clock or crystal frequencies that could be used depending on what baud rate (or data rate) each channel is operating at. With the new fractional baud rate generator, divisors can be from 1 to (2^{16} - 0.0625) in increments of 0.0625 (or 1/16). The fractional divisor allows the use of non-standard clock frequency to be used to generate standard baud rates and the use of standard clock frequency to generate non-standard baud rates.

All devices operate from 2.25 to 3.63 volts with 5 Volt tolerant inputs. Each channel of the XR16V275x is capable of data rates up to 8 Mbps at 3.3V with an 8X sampling clock. The XR16V275x is pin and software compatible with the previous generation XR16L275x UART family. The XR16V2750 is available in 48-pin TQFP and 32-pin QFN packages. The XR16V2751 is available in 48-pin TQFP package. The XR16V2552 is available in 44-pin PLCC and 32-pin QFN packages.

Major Features

- **2.25 to 3.63 Volt Operation**
- **5 Volt Tolerant Inputs**
- **Two independent UART channels**
- **Data rate of up to 8 Mbps at 3.3V, and 6.25 Mbps at 2.5 V with 8X sampling rate**
- **Fractional Baud Rate Generator**
- **Transmit and Receive FIFOs of 64 bytes**
- **Proagrammable TX and RX FIFO Trigger Levels**

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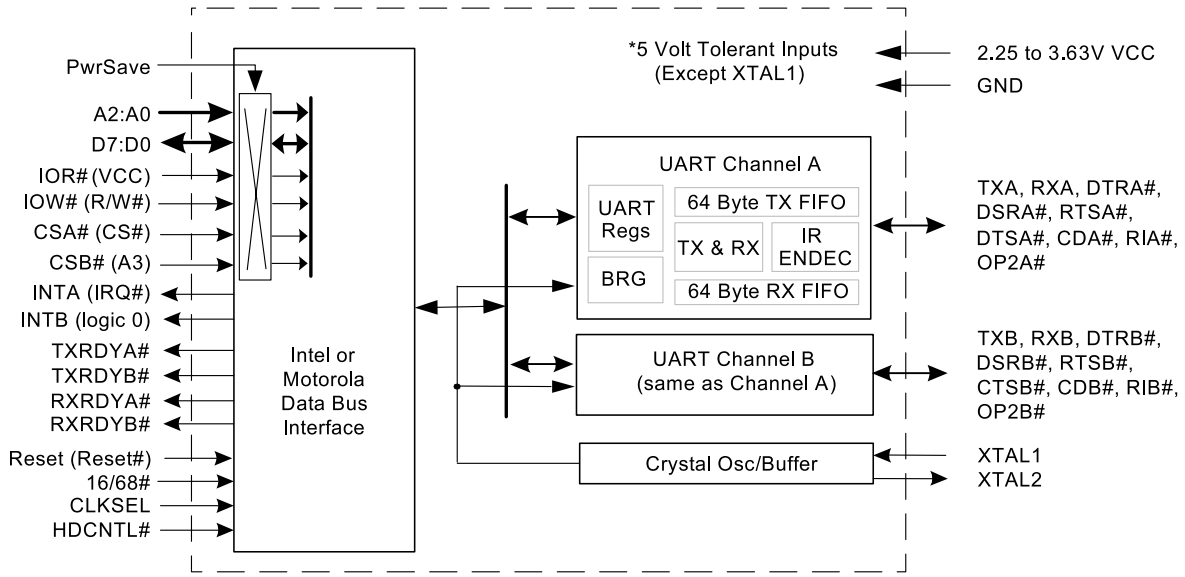
XR16V2751 Block Diagram



Features

- Automatic Hardware (RTS/CTS) Flow Control
- Automatic Software (Xon/Xoff) Flow Control
- Wireless Infrared (IrDA 1.0)
- Encoder/Decoder
- Automatic sleep mode
- Full modem interface
- Device Identification and Revision
- Crystal oscillator or external clock input
- 48-TQFP, 32-QFN and 44-PLCC packages

Applications

- Portable Appliances
- Telecommunication Network Routers
- Ethernet Network Routers
- Cellular Data Devices
- Factory Automation and Process Controls

Ordering Information

Product No.	*Package*	*Operating Temp. Range*
XR16V2750IL	*32-QFN*	*-40°C to +85°C*
XR16V2750IM	*48-TQFP*	*-40°C to +85°C*
XR16V2751IM	*48-TQFP*	*-40°C to +85°C*
XR16V2752IL	*32-QFN*	*-40°C to +85°C*
XR16V2752IJ	*44-PLCC*	*-40°C to +85°C*

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