

XR16M2550/2551

High Performance Low Voltage DUART with 16-Byte FIFO and Power-Save Feature

Ideal for High Speed Data Transmission at Low Voltages

The XR16M2550/XR16M2551¹ (XR16M255x) product family consists of two high performance Universal Asynchronous Receiver Transmitter (UART) with 16 byte transmit and receive FIFOs. Each UART is compatible to the industry standard 16550 UART, but with enhanced features such selectable TX and RX FIFO trigger levels, automatic hardware (RTS/CTS) flow control, automatic software (XON/XOFF) flow control, sleep mode, and a fractional baud rate generator.

In addition, the XR16M2551 has two additional features: Intel/Motorola bus select and PowerSave mode. The XR16M2551 can operate in either the Intel bus mode (CS#, IOR#, IOW#) or the Motorola bus mode (CS#, R/W#). When the XR16M2551 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 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 216 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. With the new fractional baud rate generator, divisors can be from 1 to (216 - 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 1.62V to 3.63V. Each channel of the XR16M255x is capable of data rates up to 16 MBps at 3.3V with a 4X sampling clock. The XR16M255x is pin and software compatible with previous generation 2-Channel UART families. The XR16M2550 and XR16M2551 are available in 48-pin TQFP and 32-pin QFN packages.

¹Covered by U.S. Patent #5,649,122



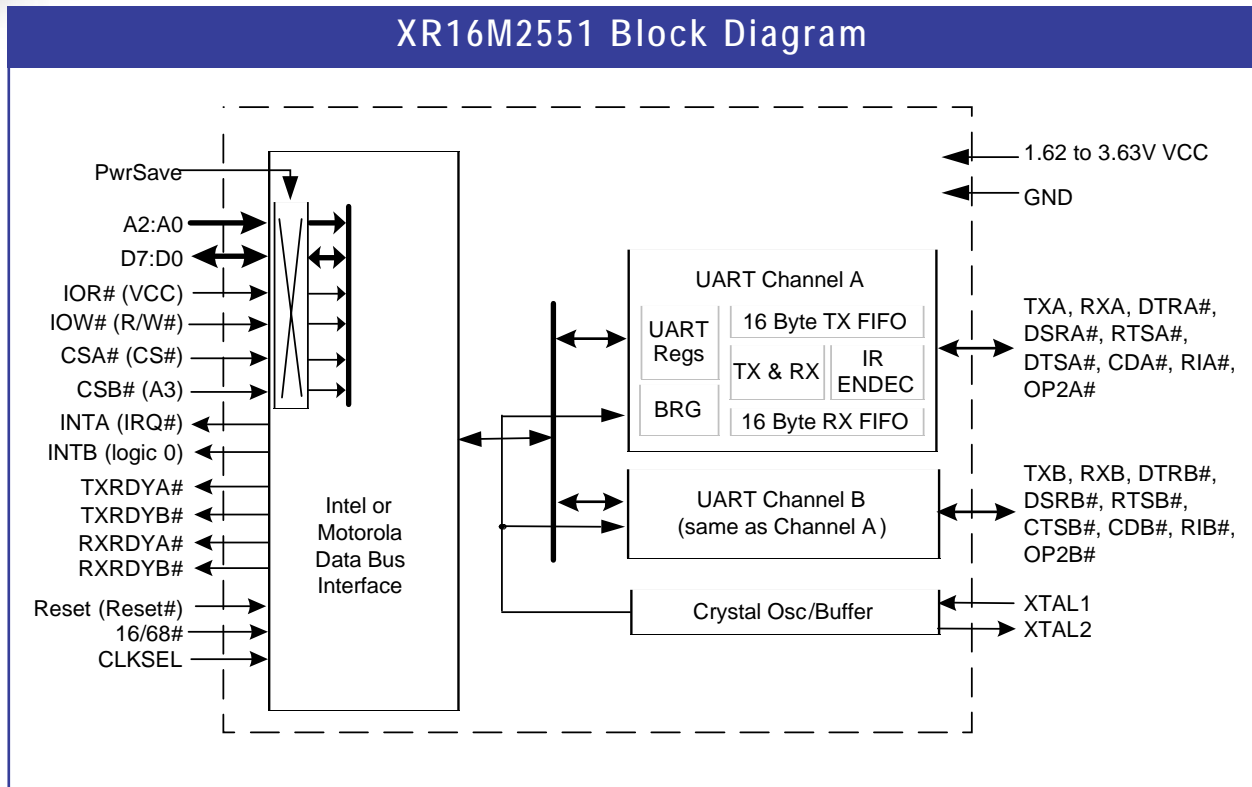
Major Features

- 1.62V to 3.63V operation
- Pin and software compatible with previous generation 2-channel UART families
- Two independent UART channels
- PowerSave feature (M2551) reduces sleep current to 15 μ A
- Device identification and revision
- Crystal oscillator (up to 24MHz) or external clock (up to 64MHz) input
- 48-TQFP and 32-QFN packages

EXAR

Experience *Our* Connectivity.

High Performance Low Voltage DUART with 16-Byte FIFO and Power-Save Feature



Features

- Register set compatible to XR16V2550
- Data rate of up to 16 MBps at 3.3 V
- Data rate of up to 12.5 MBps at 2.5 V
- Data rate of up to 8 MBps at 1.8V
- Fractional baud rate generator
- Transmit and receive FIFOs of 16 bytes
- Selectable TX and RX FIFO trigger levels
- 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

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
XR16M2550IL32	32-QFN	-40°C to +85°C
XR16M2550IM48	48-TQFP	-40°C to +85°C
XR16M2551IL32	32-QFN	-40°C to +85°C
XR16M2551IM48	48-TQFP	-40°C to +85°C