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Dual UART rolls with 16-Mbits/s data rate

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Fremont, Calif.— Exar Corp.'s latest UART product family dubbed the XR16V2x5x series supports a data rate of 16-Mbits/s, providing telecommunications, portable device and factory automation manufacturers with a 250% data throughput improvement over its legacy devices.

The XR16V2x5x UART family consists of nine devices. The XR16V2550/51/52 series are 16-byte FIFO devices; the XR16V2650/51/52 series are 32-byte FIFO devices and the XR16V2750/51/52 series are 64-byte FIFO devices. The XR16V2750/51/52 devices have additional features such as programmable trigger levels and Auto RS-485 half-duplex direction control.

A key feature of the XR16V2650/51/52 series is a fractional baud-rate generator with prescaler. The fractional baud rate generator allows the designer to use any available clock source on the board to generate standard baud rates. In the previous generation parts, only standard clock frequencies could generate standard baud rates.

"Fractional baud rate generator is driven by the need of many designers trying to reduce the board count by eliminating an external crystal required specifically for the UART. That would reduce the cost of the crystal which is priced between 10 and 20 cents so in a high-volume application where several hundreds of thousands of these boards, there will be cost savings on a bigger scale," said Rakesh Bhatia, strategic marketing manager, Interface Products Division.

The XR16V2x5x UART family also offers lower operating voltages and 5-V tolerant inputs and several FIFO choices. Each device has selectable TX and RX FIFO trigger levels, automatic hardware and software controls and a wireless infrared encoder/decoder.

"We've lowered the operating voltage from 5 volts to 3.3- volts nominal. So it has an operating voltage range from 2.25- to 3.6-volt supply," he said.

Other features include PowerSave mode, automatic sleep mode, and an Intel/Motorola bus interface.

The UARTs that end with 50 in their part number do not have the power-save mode.

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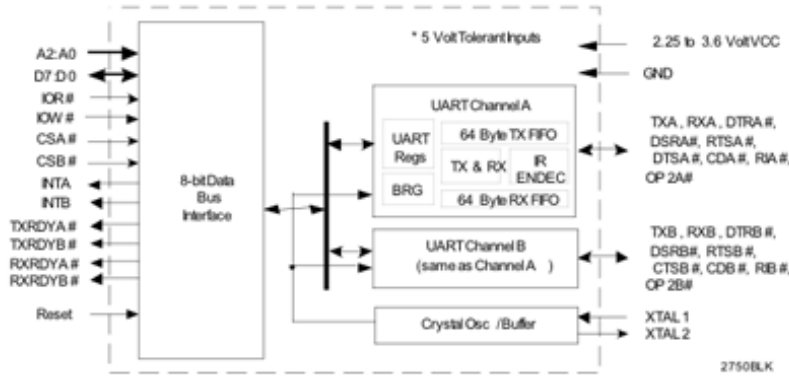

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EXAR XR16V2750 Block Diagram

Full RS-232 (3Tx/5Rx)



Those that end with 51 have the power-save mode, which is a user programmable feature. When the UART is not being used, the power-save mode kicks in and turns off the internal blocks of the UART, which will end up consuming less power on the board, Bhatia said.

"Everything with a 52 at the end has a feature or functional that's comparable to National Semiconductor's product line," he added.

Tools and Support

The XR16V2x5x series is supported by standard serial port software drivers for popular operating systems including Windows CE 4.2 and 5.0, XP and Linux. With the availability of software drivers and Exar's application support hot line, UART customers can greatly accelerate their product development.

Packaging, pricing and availability

The XR16V2550, XR16V2551, XR16V2650, XR16V2651, XR16V2750 are all available in either a 48-pin TQFP, or a 32-pin QFN package. The XR16V2552, XR16V2652, and XR16V2752 are all available in either a 44-pin PLCC, or a 32-pin QFN package. The XR16V2751 is available in a 48-pin TQFP package.

All nine devices are available now, operate over the commercial temperature range, and in 1,000 piece quantities are priced in the mid-\$3 range. Exar products are European RoHS compliant except for external lead finish or solder balls. Lead-free products are also available upon request.

Additional information on all the devices and other UART products can be found at www.exar.com/area.php?areaID=3

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