Full-Speed USB UART Family
XR21V1410/V1412/V1414

Industry's Smallest & Fastest USB UARTs

The XR21V1410 (V1410), XR21V1412 (V1412), and XR21V1414 (V1414) are enhanced 1-channel, 2-channel and 4-channel Universal Asynchronous Receiver and Transmitter (UART) with a USB interface. The USB interface is fully compliant to Full Speed USB 2.0 specification that supports 12 Mbps USB data transfer rate. The USB interface also supports USB suspend, resume and remote wakeup operations.

The V141x operates from an internal 48MHz clock therefore no external crystal/oscillator is required like previous generation UARTs. With the fractional baud rate generator, any baud rate can accurately be generated using the internal 48MHz clock.

The large 128-byte TX FIFO and 384-byte RX FIFO of the V141x helps to optimize the overall data throughput for various applications. The Automatic Transceiver Direction control feature simplifies both the hardware and software for half-duplex RS-485 applications. The multidrop (9-bit) mode with automatic half-duplex transceiver control feature further simplifies typical multidrop RS-485 applications.

The V141x operates from a single 2.97 to 3.63 volt power supply and has 5V tolerant inputs.

Virtual COM port drivers for Windows 2000, XP, Vista, and CE, as well as Linux and Mac are supported for the XR21V1410, XR21V1412 and XR21V1414.

Major Features

- USB 2.0 Compliant Interface
  - Supports 12 Mbps USB full-speed data rate
  - Supports USB suspend, resume and remote wakeup operations
- Enhanced UART Features
  - Data rates up to 12 Mbps
  - Fractional Baud Rate Generator
  - 128 byte TX FIFO
  - 384 byte RX FIFO
  - 7, 8 or 9 data bits, 1 or 2 stop bits
  - Automatic Hardware (RTS/CTS or DTR/DSR) Flow Control
  - Automatic Software (Xon/Xoff) Flow Control
  - Multidrop mode w/ Auto Half-Duplex Transceiver Control
  - Multidrop mode w/ Auto TX Enable
  - Half-Duplex mode
  - Selectable GPIO or Modem I/O
- Internal 48 MHz clock
- Single 2.97-3.63V power supply
- 5V tolerant inputs
- Virtual COM Port drivers
  - Windows 2000, XP and Vista
  - Windows CE 4.2, 5.0, 6.0
  - Linux
  - Mac

Ordering Information

Part Number	Package	Operating Temperature Range
XR21V1410IL16-F	16-pin QFN	-40°C to 85°C
XR21V1412IL32-F	32-pin QFN	-40°C to 85°C
XR21V1414IM48-F	48-pin TQFP	-40°C to 85°C

Applications

- Portable Appliances
- External Converters (Dongles)
- Battery-Operated Devices
- Cellular Data Devices
- Factory Automation and Process Controls
- Industrial Applications

Block Diagram