XR21B1411

EXAR
Powering Connectivity™

Single Channel USB UART with Industry's Smallest Package and Optimized Software Drivers

The XR21B1411 (B1411) is an enhanced 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 B1411 operates from an internal clock that is programmable to 6, 12, 24 or 48 MHz. Therefore, no external crystal / oscillator is required as in previous generation UARTs. With the fractional baud rate generator, any baud rate up to 12 Mbps can be accurately generated using the internal clock.

The large 128-byte TX FIFO and 384-byte RX FIFO of the B1411 help 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. If required, the multidrop (9-bit) mode with automatic half-duplex transceiver control feature further simplifies typical multidrop RS-485 applications.

The Vendor ID, Product ID, bus-powered mode, self-powered mode, remote wakeup support or maximum power consumption values, as well as default baud rate settings can be programmed using the on-board OTP through the USBD+ / USBD- pins.

The B1411 operates from a single 5V power supply and is available in a 16-pin QFN package.

Software drivers for Windows 7, 2000, XP, Vista, and CE, as well as Linux and Mac are supported for the XR21B1411.
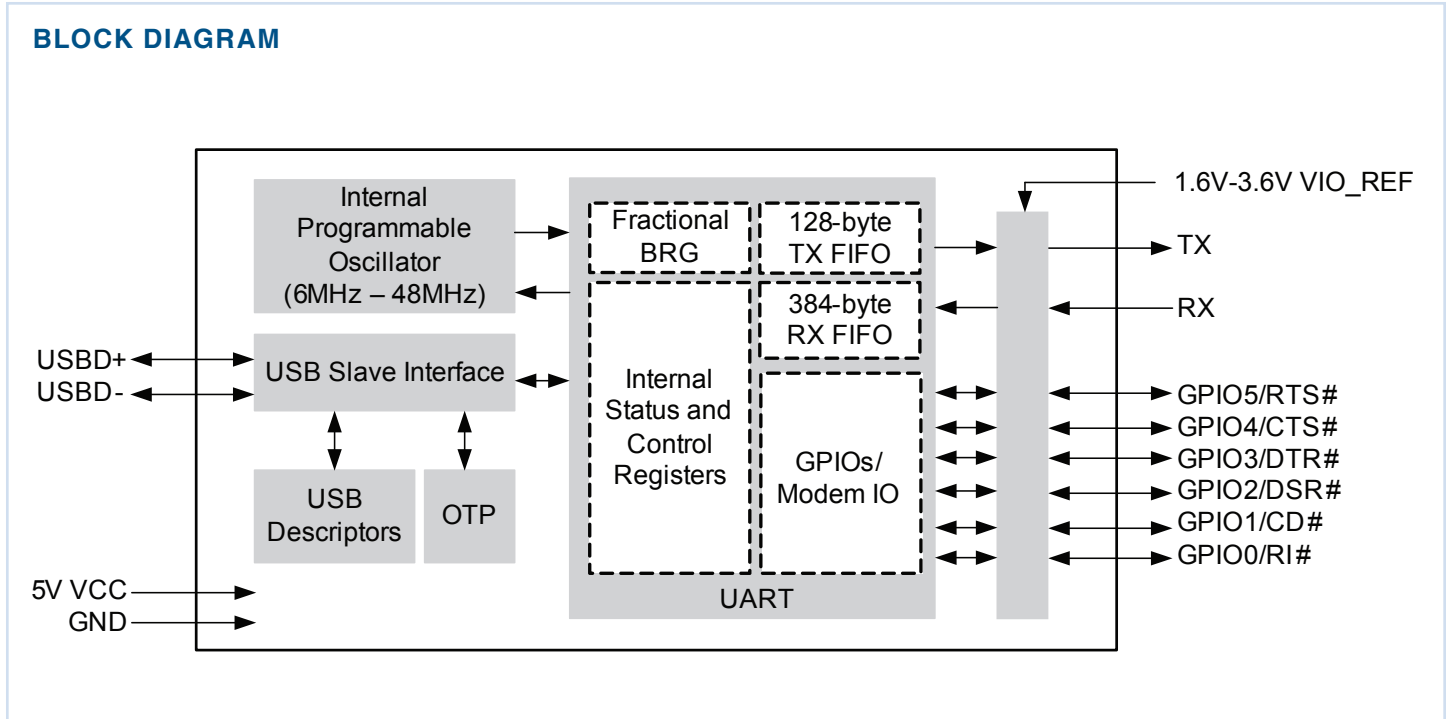
FEATURES

- ±15kV HBM ESD on USBD+/USBD-
- 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
  - Odd, even, mark, space or no parity
  - Automatic Hardware (RTS/CTS or DTR/DSR) Flow Control
  - Automatic Software (Xon/Xoff) Flow Control
  - Multidrop mode
  - Auto Transceiver Control
  - Half-Duplex mode
  - Selectable GPIO or Modem I/O
- Internal 48 MHz clock with clock divisors programmable down to 6 MHz
- Single 5V power supply
- 16-pin QFN package
- Virtual COM Port drivers
  - Windows 7, 2000, XP and Vista
  - Windows CE 4.2, 5.0, 6.0
  - Linux
  - Mac

XR21B1411

Single Channel USB UART with Industry's Smallest Package and Optimized Software Drivers

BLOCK DIAGRAM

TYPICAL APPLICATIONS

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

ORDERING INFORMATION

Part Number	Package	Operating Temperature Range
XR21B1411IL16-F	QFN16	-40°C to +85°C

www.exar.com