



Follow Us



Communications

Networking

Storage

Interface

Power



3/30/2011
Exar Serial Transceiver Is an 'EDN China Hot Product' for First Quarter 2011

SP337 is one of Top 25 Most Accessed New Devices on EDN China's WebsiteFremont, CA, March 30, 2011 E

[READ MORE →](#)

[Home](#) > [Interface](#) > [UART & Bridging Solutions](#) > [8-Bit/VLIO UARTs](#)

XR16M890

8-bit (Intel/Motorola/VLIO) UART with 128-Byte FIFO and Integrated Level Shifters

Features

- Integrated Level Shifters on CPU interface, UART and GPIO signals
- Intel/Motorola/VLIO Bus Interface select
 - '0' ns address setup/hold times
 - '0' ns data hold time
- 24 Mbps maximum UART data rate
- Up to 16 GPIOs
- 128-Bytes TX and RX FIFOs
- Programmable TX/RX trigger levels
- TX/RX FIFO Level Counters
- Independent TX/RX Baud Rate Generator
- Fractional Baud Rate Generator
- Auto RTS/CTS Hardware Flow Control
- Auto XON/XOFF Software Flow Control
- Auto RS-485 Half-Duplex Direction Control
- Multidrop mode w/ Auto Address Detect (RX)
- Multidrop mode w/ Address Byte Control (TX)
- Sleep Mode with Automatic Wake-up
- Infrared (IrDA 1.0 and 1.1) mode
- 1.62V to 3.63V supply operation
- 5V tolerant inputs
- Crystal oscillator or external clock input

Applications

- Personal Digital Assistants (PDA)
- Cellular Phones/Data Devices
- Battery-Operated Devices
- Global Positioning System (GPS)
- Bluetooth

Description

The XR16M890¹ (M890) is a single-channel Universal Asynchronous Receiver and Transmitter (UART) with integrated level shifters and 128 bytes of transmit and receive FIFOs.

For flexibility in a mixed voltage environment, the M890 has 4 VCC pins. There is a VCC pin for the core, a VCC pin for the UART signals, a VCC pin for the CPU interface signals and a VCC pin for the GPIO signals. The VCC pins for the UART, GPIO and CPU interface signals allow for the M890 to interface with devices operating at different voltage levels eliminating the need for external voltage level shifters.

The Auto RS-485 Half-Duplex Direction control feature simplifies both the hardware and software for half-duplex RS-485 applications. In addition, the Multidrop mode with Auto Address detection and Address Byte Control features increase the performance by simplifying the software routines.

The Independent TX/RX Baud Rate Generator feature allows the transmitter and receiver to operate at different baud rates. In addition, the Fractional Baud Rate Generator feature provides flexibility for crystal/clock frequencies for generating standard and non-standard baud rates.

The M890 has programmable transmit and receive FIFO trigger levels, automatic hardware and software flow control, and data rates of up to 24 Mbps. Power consumption of the M890 can be minimized by enabling the sleep mode.

The M890 has a 16550 compatible register set that provide users with operating status and control, receiver error indications, and modem serial interface controls. An internal loopback capability allows onboard diagnostics. The M890 has a selectable Intel/Motorola/VLIO bus interface.

NOTE: ¹Covered by U.S. Patent #5,649,122.

Part Number	Pkg Code	RoHS	Min Temp. (°C)	Max Temp. (°C)	Status	Buy Now	Order Samples
XR16M890IL32-0C-EB	Board				Active		
XR16M890IL32-F	QFN32		-40	85	Active		
XR16M890IL32TR-F	QFN32		-40	85	Active		
XR16M890IL40-0C-EB	Board				Active		

Specifications

CH	1
CPUInterface	Intel/Motorola/VLIO
Data Rate@5/3.3/2.5V	na/24/na
Tx/RxFIFO(Bytes)	128/128
Tx/RxFIFOCtrs	Yes
Tx/RxFIFOINT Trig	Program/ Program
AutoRTS/CTS	Yes
IrDaSup	Yes
5VTollInputs	Yes
Sup V	1.62-3.63
Pkgs	QFN-32, QFN-40, TQFP-48

Documents



Datasheets

[Datasheet](#)
[Version 1.0.0](#)
[April 2011](#)
[1.28 MB](#)

Product Flyer

[Product Flyer](#)
[Version 1.0.0](#)
[November 2010](#)
[407.73 KB](#)

Related News

- [11/9/2010 - Exar Launches Two Industry First Universal Asynchronous Receiver Transmitters \(UARTs\) with Integrated Level Shifters](#)

XR16M890IL40-F	QFN40		-40	85	Active		
XR16M890IL40TR-F	QFN40		-40	85	Active		
XR16M890IM48-OC-EB	Board				Active		
XR16M890IM48-F	TQFP48		-40	85	Active		
XR16M890IM48TR-F	TQFP48		-40	85	Active		

Part Status Legend

- Active** - the part is released for sale, standard product.
- EOL (End of Life)** - the part is no longer being manufactured, there may or may not be inventory still in stock.
- CF (Contact Factory)** - the part is still active but customers should check with the factory for availability. Longer lead-times may apply.
- PRE (Pre-introduction)** - the part has not been introduced or the part number is an early version available for sample only.
- OBS (Obsolete)** - the part is no longer being manufactured and may not be ordered.
- NRND (Not Recommended for New Designs)** - the part is not recommended for new designs.

