XR19L400/402
1-Ch and 2-Ch Integrated UART and RS-485 Transceivers

Ideal for Low Power, Embedded Applications

The XR19L400 (L400) and XR19L402 (L402) are highly integrated devices that combine a full-featured single channel (L400) or two channel (L402) Universal Asynchronous Receiver and Transmitter (UART) and RS-485 transceivers. The L400 and L402 are designed to operate with a 3.0V to 5.5V power supply. The L400 and L402 are fully compliant with RS-485 Standards.

The L400 and L402 operate in four different modes: Active, Partial Sleep, Full Sleep and Power-Save. Each mode can be invoked via hardware or software. Upon power-up, the L400 and L402 are in the Active mode where the UART and RS-485 transceiver function normally. In the Partial Sleep mode, the internal crystal oscillator of the UART or charge pump of the RS-485 transceiver is turned off. In Full Sleep mode, both the crystal oscillator and the charge pump are turned off. While the UART is in the Sleep mode, the Power-Save mode isolates the core logic from the control signals (chip select, read/write strobes, address and data bus lines) to minimize the power consumption. The RS-485 receivers remain active in any of these four modes.
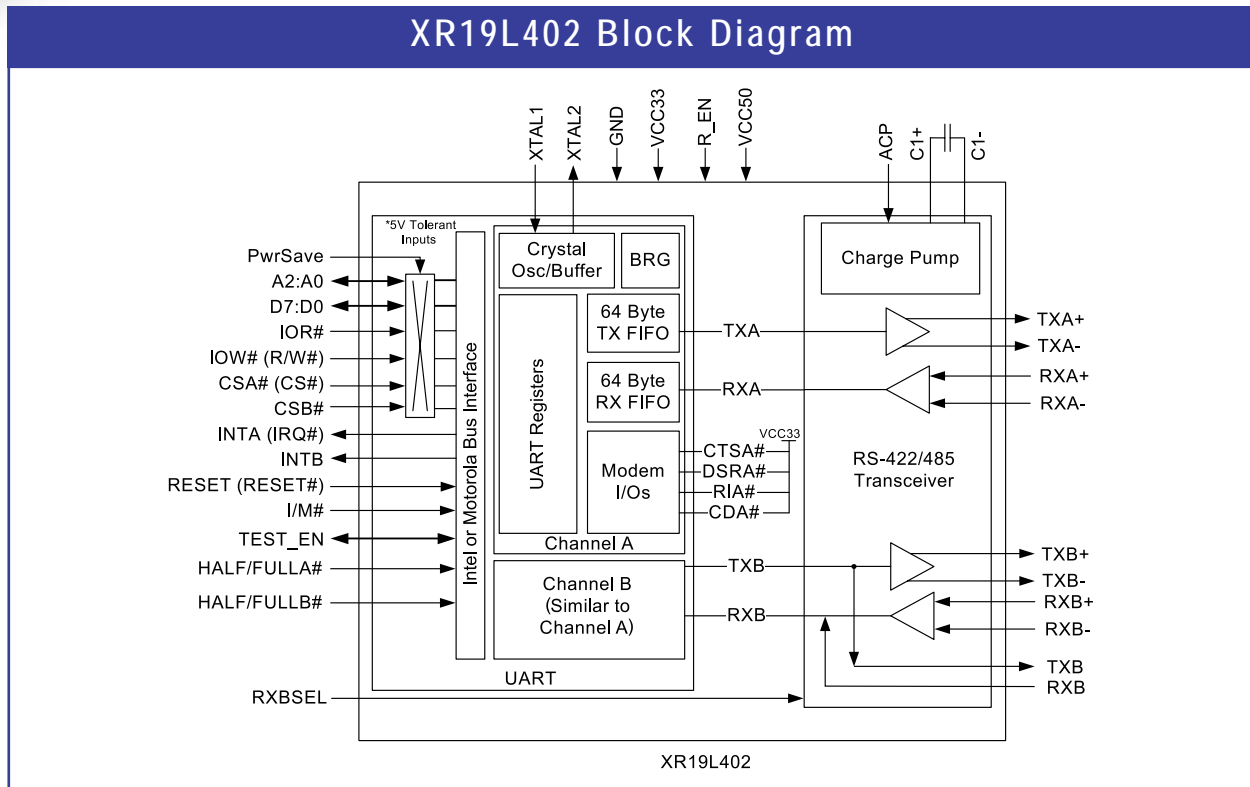
Major Features

- **Meets true RS-485 Standards from +3.0V to +5.5V operation**
- **Up to 8 Mbps data transmission rate**
- **45us sleep mode exit (charge pump to full power)**
- **Full-featured UART**
- **40-pin QFN (L400)**
- **48-pin QFN (L402)**
- **Pb-Free, RoHS Compliant Versions Offered**

EXAR

Experience *Our* Connectivity™

XR19L402 Block Diagram

XR19L402 Block Diagram showing: Inputs labeled XTAL1, XTAL2, GND, VCC33, R_EN, VCC50, ACP, C1+, C1-. Internal blocks: *5V Tolerant Inputs, Crystal Osc/Buffer, BRG, UART Registers, 64 Byte TX FIFO, 64 Byte RX FIFO, Modem I/Os (VCC33), Intel or Motorola Bus Interface, Channel A, Channel B (Similar to Channel A), UART, Charge Pump, RS-422/485 Transceiver. Left-side signals: PwrSave, A2:A0, D7:D0, IOR#, IOW# (R/W#), CSA# (CS#), CSB#, INTA (IRQ#), INTB, RESET (RESET#), I/M#, TEST_EN, HALF/FULLA#, HALF/FULLB#, RXBSEL. Internal signals: TXA, RXA, CTSA#, DSRA#, RIA#, CDA#, TXB, RXB. Right-side outputs: TXA+, TXA-, RXA+, RXA-, TXB+, TXB-, RXB+, RXB-, TXB, RXB. Labeled XR19L402.

Features

- ESD protection for RS-485 I/O pins at

  - +/-15kV - Human Body Model

  - +/-15kV - IEC 61000-4-2, Air-Gap Discharge

  - +/- 8kV - IEC 61000-4-2, Contact Discharge

- Software compatible with industry standard

  16550 UART

- Intel/Motorola bus select

- Complete modem interface

- Sleep and Power-save modes to conserve battery power

- Wake-up interrupt upon exiting low power modes

Applications

- Battery-Powered Equipment

- Handheld and Mobile Devices

- Handheld Terminals

- Industrial Peripheral Interfaces

- Point-of-Sale (POS) Systems

Ordering Information

Product No.	Package	Operating Temp. Range
XR19L400IL40	40-pin QFN	-40°C to +85°C
XR19L402IL48	48-pin QFN	-40°C to +85°C

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[MaxLinear](#):

[XR19L400IL40-0B-EB](#) [XR19L400IL40-F](#) [XR19L400IL40TR-F](#)