

## Quad-UART Asynchronous Communication Element

# SB16C1054



### Quad UART with 256-byte TX/RX FIFOs



SB16C1054 is a QUAD UART(Universal Asynchronous Receiver/Transmitter) with 256-byte FIFOs, automatic hardware/software flow control, and data rates up to 5 Mbps. 256-byte FIFOs reduce CPU overhead and allow higher data rates and data throughput. In addition to increased FIFO size and data rates, SB16C1054 also offers enhanced features. It has a GICR(Global Interrupt Control Register)/GISR(Global Interrupt Status Register) that reduces interrupt signal control logic. Also, FUR(Flow control Upper Threshold Register)/FLR(Flow control Lower Threshold Register) that stores receive FIFO threshold levels to start/stop transmission during hardware and software flow control. SB16C1054 allows Xoff re-transmit function as well as Xon any character function in flow control operation. On-chip status registers provide transmission status and all of error-related information(parity, overrun, framing or break interrupt). An internal loop-back capability allows on-board diagnostics. SB16C1054 is available in plastic TQFP80 and PLCC68 packages

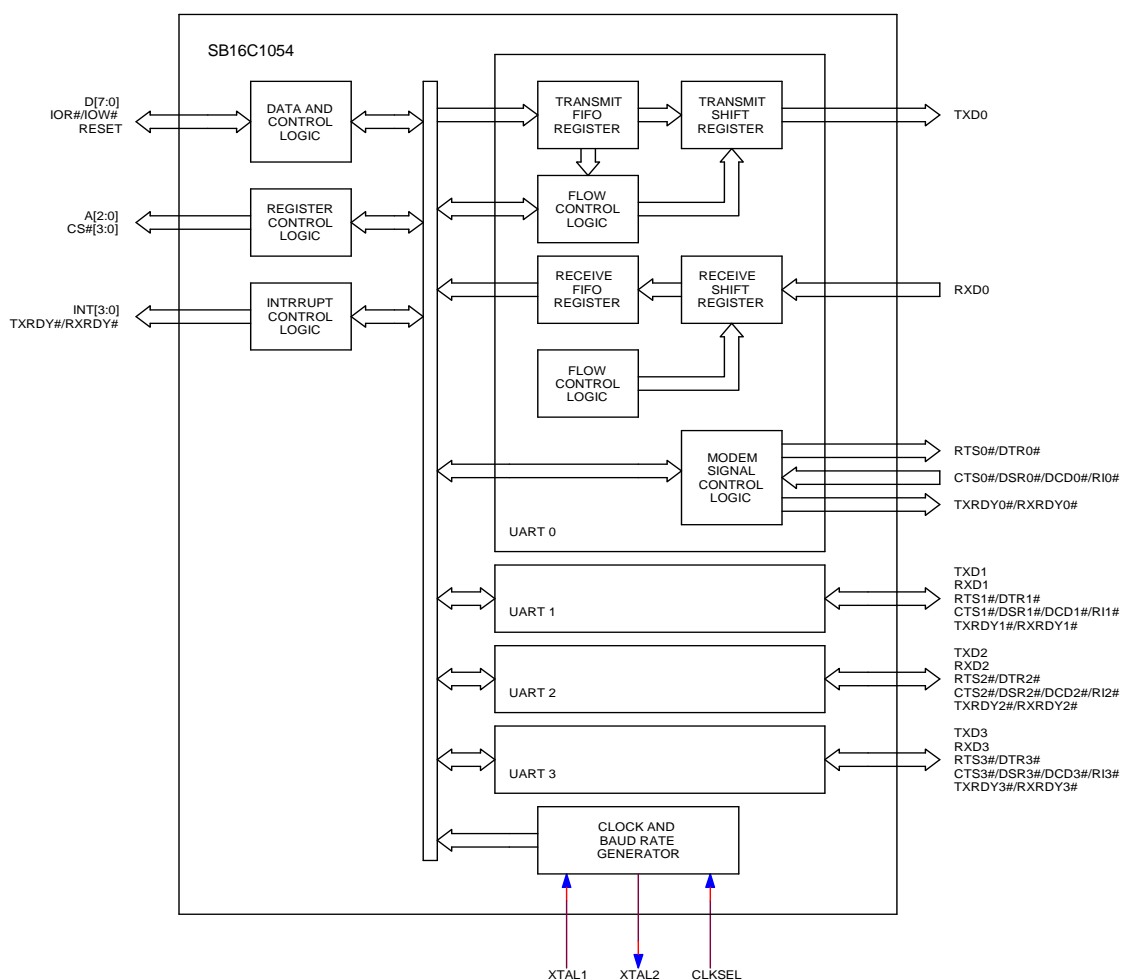
### ■ SB16C1054 Features

- **Four independent UART with TX/RX FIFO of 256-bytes (Deep FIFO)**
- Register Set Compatible to 16C554 and 16C654
- **Data rates of up to 5Mbps**
- Programmable TX/RX FIFO trigger level for DMA and interrupt generation
- Software / Hardware flow control (Xon/Xoff & Auto-RTS/Auto-CTS)
- **Global interrupt Mask/Poll register**
- **Supports Xoff re-transmit & Xon-any character**
- **Dedicated Control Pins for RS422/485 Auto Toggling**
- Sleep mode (low operating current)
- Programmable serial interface characteristics
  - 5, 6, 7 or 8-bit characters
  - Even, odd or no parity bit generation and detection
  - 1, 1.5 or 2 stop bit generation and detection
- False start bit detection & Line break generation and detection
- Internal test and loop-back capabilities
- Fully prioritized interrupt system controls
- Modem control functions (RTS#, CTS#, DTR#, DSR#, DCD# and RI#)
- 3.3V I/O and 5V Tolerance
- 80-pin TQFP & 68-pin PLCC



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### Block Diagram



### Order Information

SystemBase provides users with an SB16C1054 development tool, which can cut down both cost and effort as much as possible while securing safety in product development. The SB16C1054 development tool offers H/W circuit diagrams, CAD files, S/W device drivers and source codes. With these, you can lay out new device in an easier and faster way.



Products	Description
<b>SB16C1054-TQ</b>	<b>Quad-UART with 256-byte TX/RX FIFO, 80-pin TQFP Package</b>
<b>SB16C1054-PL</b>	<b>Quad-UART with 256-byte TX/RX FIFO, 68-pin PLCC Package</b>
<b>SB16C1054 Development Kit</b>	<b>Evaluation Board, Data Sheet, Development Kit Manual, Development Kit CD</b> - E/B Schematics - E/B Artwork & Gerber - Serial EEPROM Data - Device Driver & Test Program - Source Code

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