

Features

- Single chip USB 2.0 to Multi I/O (1S, 2S, 4S, 2S+1P) controller
- **USB Device Controller**
 - Integrates on-chip USB 2.0 PHY and controller compliant to USB Spec 2.0 and 1.1
 - Supports all USB 2.0 power saving modes (L1, L2)
 - Supports USB High/Full Speed modes with Bus-power or Self-power device auto-detect capability
 - Supports USB LPM (Link Power Management)
- **Dual/Quad Serial Port Controller**
 - Two/four 16c450/16c550 compatible UARTs
 - Supports SIR IrDA mode on any/all ports
 - Supports RS-232, RS-422 and RS-485 serial ports
 - Supports multi-protocol serial transceivers
 - Supports 5, 6, 7 & 8 bit serial data
 - Supports automatic data direction control
 - Supports multi-drop mode with auto address detection
 - Supports hardware and software flow control
 - Supports baud rates from 50bps to 6Mbps
 - Supports custom baud rates from external clock
 - On-Chip 1024-Byte FIFO for upstream and 512-Byte for downstream data transfer for each Serial Port
 - I²C interface for EEPROM
 - Supports read/write EEPROM through USB interface
 - On-Chip buffers for serial port signals to operate without external transceivers over short cable

Product Brief

- Pin-to-Pin compatible with MCS7810/MCS7820/MCS7840
- Driver backward compatible with MCS7810/MCS7820/MCS7840
- **Support Remote Wake Up Function**
 - Supports Suspend Mode and Remote Wakeup via RXD, RI, DSR, DCD and CTS pin
- **Advanced Power Management Features**
 - Supports USB LPM (Link Power Management)
 - Supports remote wake up re-trigger
- **Parallel Port**
 - AX78140 supports optional 2 Serial Port and 1 Parallel Port configuration
 - On-Chip 1024-Byte FIFO for upstream and 512-Byte for downstream data transfer for Parallel Port
- **GPIO**
 - Supports 1 GPIO pin
 - AX78140 supports 16 optional software controlled GPIO pins
- Integrates on-chip 1.8V and 3.3V voltage regulator and only requires a single 5V power supply
- Single 12MHz clock input from either crystal or oscillator source
- Integrates on-chip power-on reset circuit
- Small form factor with 48/64-pin LQFP RoHS compliant package
- Operating over 0°C to 70°C or -40°C to +85°C temperature range

Product Description

With the rapid proliferation of USB interface in the embedded world, developers are looking for easiest ways to add USB to microcontroller-based applications in their design. ASIX's new AX781x0 family features three USB connectivity bridge solutions including USB 2.0 to Dual Serial (AX78120), USB 2.0 to Quad Serial (AX78140) and USB 2.0 to Dual Serial and Single Parallel (AX78140) controllers. Enabling smooth migration from legacy system using ASIX's MCS78x0 series, AX78120/AX78140 provide pin-to-pin compatible and driver backward compatible with MCS7810/MCS7820/MCS7840.

AX78120/AX78140 is a USB 2.0 to Dual/Quad Serial and Single Parallel controller. It has been developed to connect a wide range of standard serial devices to a USB host.

The AX78120/AX78140's support for the following serial communication program are included: HyperTerminal, PComm, Windows direct connection, Windows dial-up connection through modem, Networking over IrDA and Windows direct connection over IrDA, Minicom.

The AX78120/AX78140, in 48/64-pin LQFP, are available with RoHS compliant package and supports commercial grade operating temperature range from 0 to 70°C and industrial grade from -40 to 85°C.

Target Applications

- Serial Attached Devices
- Serial Networking / Monitoring Equipment
- Data Acquisition System
- POS Terminal & Industrial PC
- Parallel / Printer Port based applications

Application Diagram

