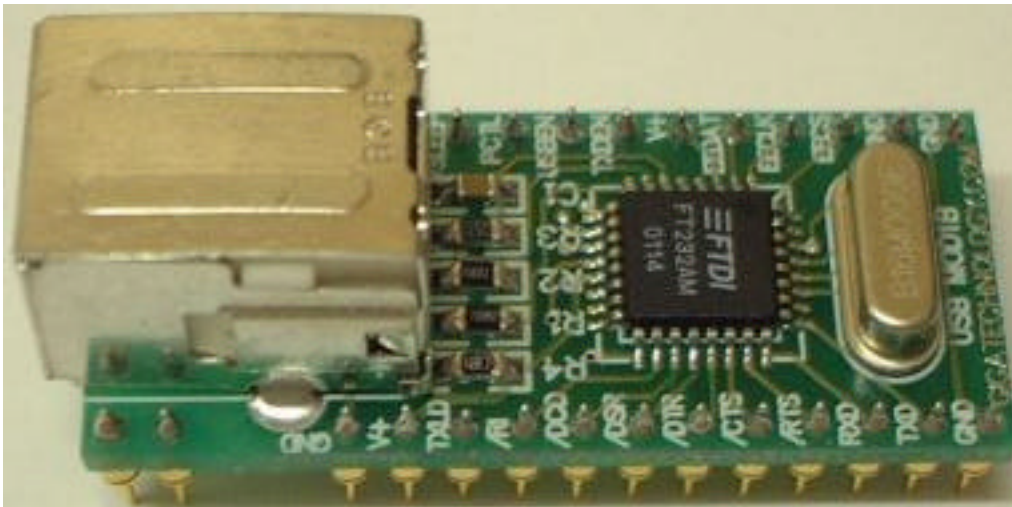


USB Plug and Play Serial Development Module

The USBMOD1 is a low-cost integrated module for transferring serial data over USB. Based on the FTDI FT8U232 USB UART IC, the USBMOD1 is capable of transfer rates of up to 920k baud (RS232) and 2000k baud (RS422 / RS485).

The USBMOD1 is ideal for rapid prototyping and development by offering a complete plug and play solution.



MODULE FEATURES

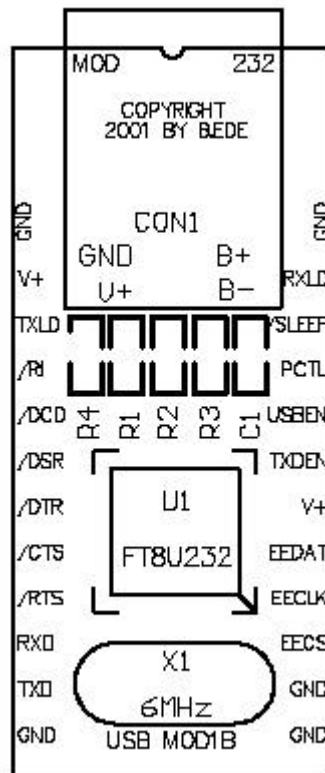
- Single module High-Speed USB UART solution
- Based on FTDI FT8U232 High-Speed USB UART IC
- 32-pin Dual In-Line Package (Ideal for prototyping)
- Fits into a standard 32-pin 600mil IC Socket
- Integrated Type-B USB Connector
- On-board 6MHz Crystal
- Provision for external EEPROM for USB enumeration data
- No external passive components required
- Module powered from USB bus (up to 60mA from USB for user application)

FT8U232 IC FEATURES

- Single Chip Multi-Function Data Transfer Solution
- RS232 link from 300 baud to 920K baud
- RS422/RS485 Link to 2000K baud
- 384 byte receive buffer / 128 byte transmit buffer for high data throughput
- Full hardware assisted or X-On/X-Off handshaking
- Support for Event Characters and Line Break condition
- Auto Transmit Buffer control for RS485
- Compact 32 pin (7mm x 7mm) MQFP package
- Integrated 6Mhz – 48Mhz Clock Multiplier aids FCC and CE compliance
- Integrated 3.3v Regulator – No External Regulator Required
- UHCI / OHCI Compliant
- USB 1.1 Specification Compliant
- USB VID, PID, Serial Number and Product Description Strings in external E2PROM.

For further information regarding the FTDI FT8U232 USB UART IC please refer to the FT8U232 Datasheet.

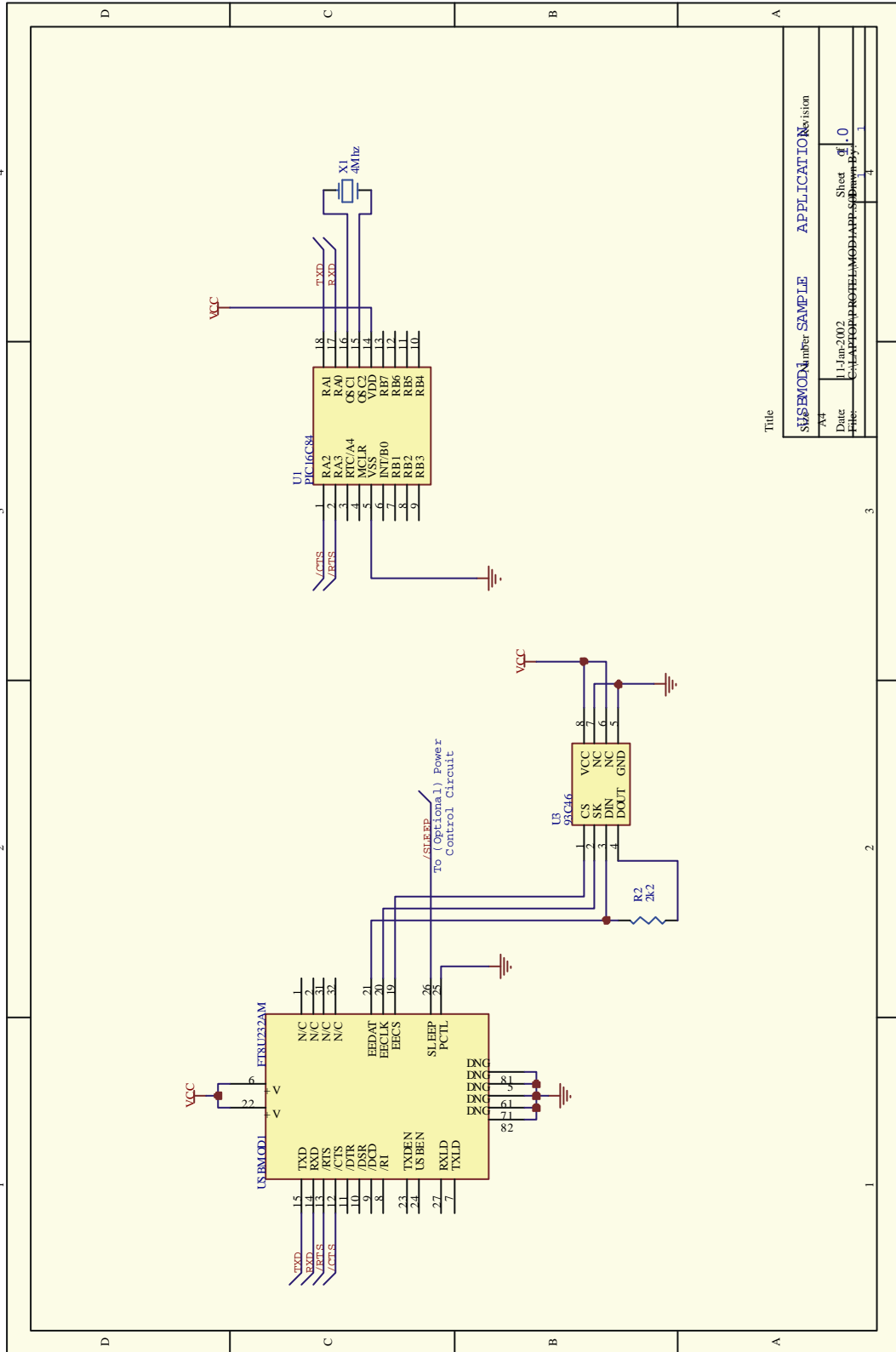
MODULE DIAGRAM



USBMOD1 PINOUT

| PIN # | SIGNAL | TYPE | DESCRIPTION |
|--------------|---------------|-------------|---|
| 1 | N/C | MOUNT | Mounting Pin for module USB connector support |
| 2 | N/C | MOUNT | Mounting Pin for module USB connector support |
| 3 | NO PIN | NO PIN | |
| 4 | NO PIN | NO PIN | |
| 5 | GND | PWR | Device – Ground Supply Pin |
| 6 | V+ | PWR | Device - +4.4 volt to +5.25 volt Power Supply Pin |
| 7 | TXLD | O.C | LED Drive – Pulses Low when Transmitting Data via USB |
| 8 | /RI | IN | UART – Ring Indicator Control Input |
| 9 | /DCD | IN | UART – Data Carrier Detect Control Input |
| 10 | /DSR | IN | UART – Data Send Ready Control Input |
| 11 | /DTR | OUT | UART – Data Terminal Ready Control Output |
| 12 | /CTS | IN | UART – Clear To Send Control Input |
| 13 | /RTS | OUT | UART – Request To Send Control Output |
| 14 | RXD | IN | UART – Receive Data Input |
| 15 | TXD | OUT | UART – Transmit Data Output |
| 16 | GND | PWR | Device – Ground Supply Pin |
| 17 | GND | PWR | Device – Ground Supply Pin |
| 18 | GND | PWR | Device – Ground Supply Pin |
| 19 | EECS | I/O | Optional EEPROM – Chip Select |
| 20 | EECLK | I/O | Optional EEPROM – Clock |
| 21 | EEDAT | I/O | Optional EEPROM – Data I/O |
| 22 | V+ | PWR | Device - +4.4 volt to +5.25 volt Power Supply Pin |
| 23 | TXDEN | OUT | UART – Enable Transmit Data for RS485 |
| 24 | USBEN | OUT | USB Enabled – High after device is configured via USB |
| 25 | PCTL | IN | Bus Powered – Tie Low / Self Powered – Tie High |
| 26 | SLEEP | OUT | Goes Low during USB Suspend Mode |
| 27 | RXLD | O.C | LED Drive – Pulses Low when Receiving Data via USB |
| 28 | GND | PWR | Device – Ground Supply Pin |
| 29 | NO PIN | NO PIN | |
| 30 | NO PIN | NO PIN | |
| 31 | N/C | MOUNT | Mounting Pin for module USB connector support |
| 32 | N/C | MOUNT | Mounting Pin for module USB connector support |

SAMPLE APPLICATION



| Title | |
|------------|-------------|
| USBMOD1 | Number |
| SAMPLE | APPLICATION |
| Revision | |
| Date | 11-Jan-2002 |
| Drawn by | 11-Jan-2002 |
| Checked by | 11-Jan-2002 |
| Sheet | of |
| 1 | 4 |