



DESCRIPTION

The CP2101 is a highly-integrated USB-to-UART Bridge Controller providing a simple solution for updating RS232 designs to USB using a minimum of components and PCB space. The CP2101 includes a USB 2.0 full-speed function controller, USB transceiver, oscillator, EEPROM and asynchronous serial data bus (UART) with full modem control signals in a compact 5mm X 5mm MLP-28 package. No other external USB components are required.

EXAMPLE APPLICATIONS

- Upgrade of RS-232 Legacy Devices to USB
- Cellular Phone USB Interface Cable
- PDA USB Interface Cable
- USB to RS-232 Serial Adapter

VIRTUAL COM PORT DRIVERS

- Works with Existing COM Port Applications
- Royalty-Free Distribution License
- Windows 98/Me/2000/XP
- MAC OS-9
- MAC OS-X
- Windows CE *
- Linux 2.40 and greater *

* (Contact factory for availability)

FEATURES

USB Function Controller and Transceiver

- USB Specification 2.0 Compliant; Full-Speed (12 Mbps)
- Integrated 512 Byte EEPROM for Vendor ID, etc.
- Integrated Transceiver; No External Resistors Required
- Integrated Clock; No External Crystal Required
- USB suspend states supported via SUSPEND pins

Asynchronous Serial Data Bus (UART)

- All Handshaking and Modem Interface Signals
- Data Formats Supported: 8-bit; 1 Stop bit
- Parity: Odd, Even, No Parity
- Baud Rates: 300bps to 921.6kbps
- 512 Byte Receive Buffer; 512 Byte Transmit Buffer
- Hardware X-On / X-Off Handshaking
- Event Character Support

Power-On Reset Circuit

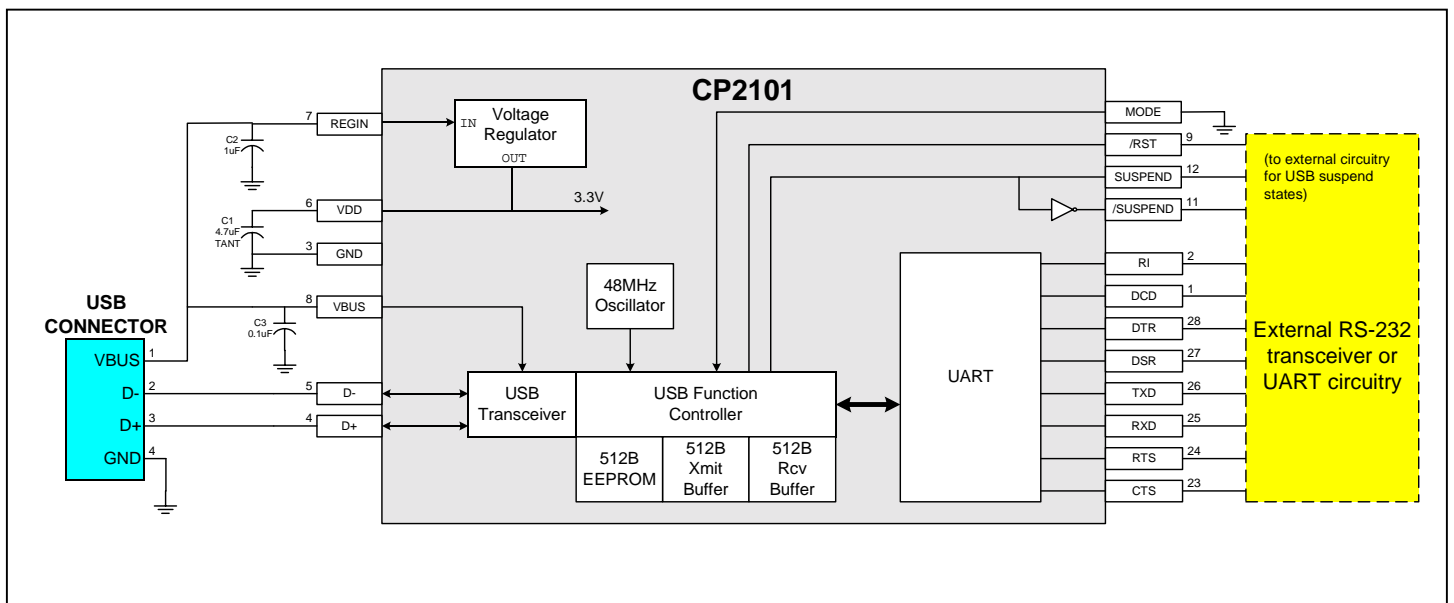
Supply Voltage

- Self-powered: 3.0V to 3.6V
- USB Bus Powered: 4.0V to 5.25V

Temperature Range: -40°C to +85°C

28-Pin MLP (5mm X 5mm)

Example Circuit Diagram





CP2101

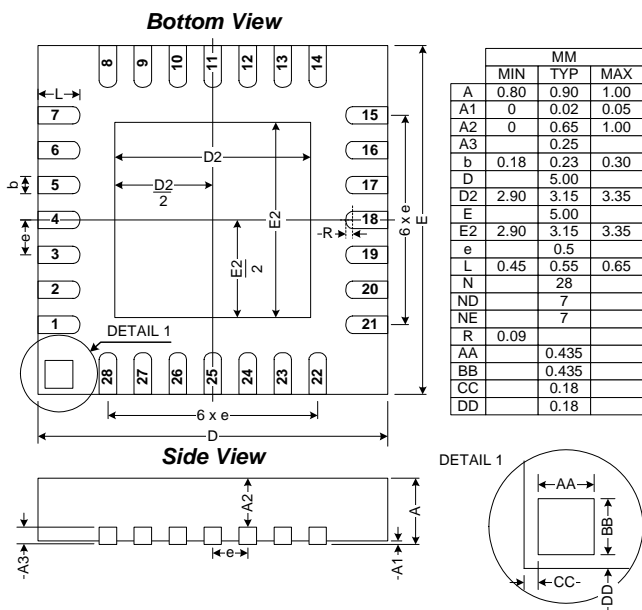
Single Chip USB to UART Bridge

Preliminary

SELECTED ELECTRICAL SPECIFICATIONS $T_A = -40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$, $V_{\text{REGIN}} = 5.0\text{V}$ unless otherwise specified.

| PARAMETER | CONDITIONS | MIN | TYP | MAX | UNITS |
|---------------------------------|------------------|-----|-----|------|---------------|
| Regulator Input Voltage (REGIN) | | 4.0 | | 5.25 | V |
| VDD (Regulator Output) | | 3.0 | 3.3 | 3.6 | V |
| IDD (Regulator Output) | | | 80 | | mA |
| Regulator Bias Current | | | 70 | | μA |
| Supply Current (from REGIN) | USB active | | 18 | | mA |
| | USB suspend mode | | 90 | | μA |

PACKAGE DRAWING



PINOUT

| Pin Number | Signal |
|--------------|------------|
| 1 | DCD |
| 2 | RI |
| 3 | GND |
| 4 | D+ |
| 5 | D- |
| 6 | VDD |
| 7 | REGIN |
| 8 | VBUS |
| 9 | /RST |
| 11 | /SUSPEND |
| 12 | SUSPEND |
| 14 | MODE |
| 23 | CTS |
| 24 | RTS |
| 25 | RXD |
| 26 | TXD |
| 27 | DSR |
| 28 | DTR |
| 10,13, 15-22 | No Connect |

CP2101EK Evaluation Kit – a complete HW/SW demonstration of the CP2101 chip and associated software drivers.

The CP2101EK includes:

- CP2101TB Circuit Board: with USB connector, CP2101 chip, RS-232 transceiver, and DB-9 connector
- CD ROM with Device Drivers
- USB cable
- RS-232 cable

CP2101EK EVALUATION KIT

