CP2101

USB to UART Bridge

Description

- The CP2101 is a highly-integrated USB-to-UART bridge controller providing a simple solution for updating RS-232 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 5 x 5 mm QFN-28. 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 98SE/2000/XP
- MAC OS-9
- MAC OS-X
- Linux 2.40

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: 300 bps to 921.6 kbps
- 512 byte receive buffer; 512 byte transmit buffer
- Hardware X-On/X-Off handshaking
- Event character support

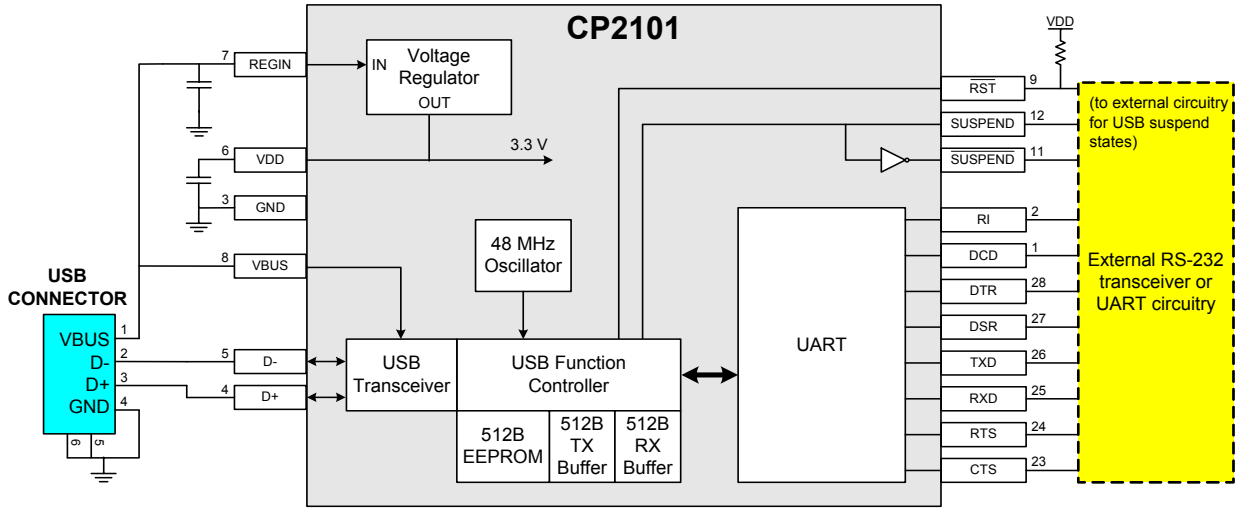
Power-On Reset Circuit

Supply Voltage

- Self-powered: 3.0–3.6 V
- USB bus powered: 4.0–5.25 V

28-Pin QFN

- **Temperature Range: –40 to +85 °C**



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Selected Electrical Specifications

(T_A = –40 to +85 C°, VREGIN = 5.0 V unless otherwise specified unless otherwise specified)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Regulator Input Voltage (REGIN)		4.0		5.25	V
V_{DD} (Regulator Output)		3.0	3.3	3.6	V
I_{DD} (Regulator Output)			80		mA
Regulator Bias Current			70		µA
Supply Current (from REGIN)	USB active USB suspend mode		18 90		mA µA

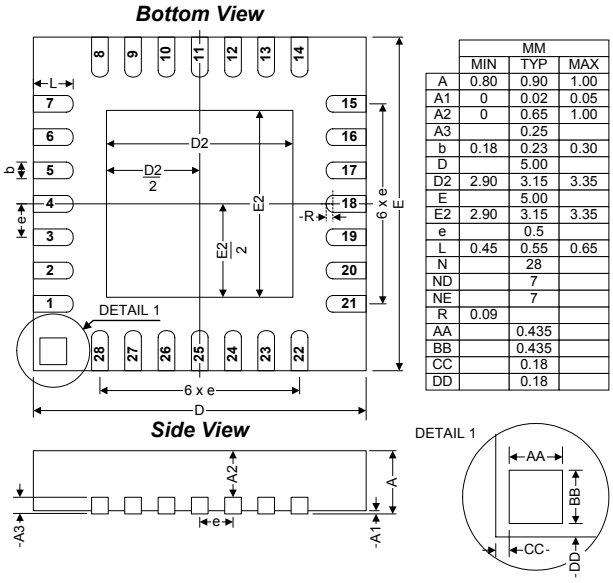
Pin Number	Signal
1	DCD
2	RI
3	GND
4	D+
5	D–
6	VDD
7	REGIN
8	VBUS
9	$\overline{RST}$
11	$\overline{SUSPEND}$
12	SUSPEND
23	CTS
24	RTS
25	RXD
26	TXD
27	DSR
28	DTR
10, 13–22	No Connect

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

The CP2101EK shown below includes the following:

- 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

Package Information



	MM		
	MIN	TYP	MAX
A	0.80	0.90	1.00
A1	0	0.02	0.05
A2	0	0.65	1.00
A3		0.25	
b	0.18	0.23	0.30
D		5.00	
D2	2.90	3.15	3.35
E		5.00	
E2	2.90	3.15	3.35
e		0.5	
L	0.45	0.55	0.65
N		28	
ND		7	
NE		7	
R	0.09		
AA		0.435	
BB		0.435	
CC		0.18	
DD		0.18	

CP2101EK Evaluation Kit

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